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G. H. C.

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Colonel James D. Fife

The American Journal of
CLINICAL MEDICINE
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Colonel James D. Fife

COLONEL James D. Fife was born on June 26, 1874, in Virginia, and was graduated in medicine, when about twenty-three years old, from the medical department of the University of Virginia.

For a few years, he was engaged in civil practice, but, in October of 1902, he did what a good many of the aristocratic young men of his state have done in the past—they yielded to the call of the military colors, and the subject of our sketch received his commission as a first lieutenant in the medical corps of the regular army, having passed the prescribed educational and professional examinations.

After the obligatory course of instruction in the Army Medical School, from which he was graduated with high marks, he entered on an active medico-military career, both in the United States and the Philippines, performing the usual tasks of subaltern medical officers in hospitals, in the field and in garrison.

After five years of service, he was promoted to the grade of captain and, on the first of July, 1916, he was advanced to field rank.

In less than a year, shortly after the United States became a participant in the World War, he was again promoted, to the grade of lieutenant colonel and, in January of the following year, he attained the grade of colonel.

Colonel Fife was sent overseas very early, his first service being as commanding officer of a base hospital which had been raised and organized in St. Louis, Mo. This unit, which was composed almost exclusively of officers and men without previous military training, was brought to a high grade of efficiency, so that the service which it rendered to its many wounded was of the highest character. In accord with the policy of the War Department, to utilize the trained regular army medical officers for important administrative and tactical tasks of responsibility, Colonel Fife was relieved from command of the base hospital, and ordered to duty with the Chief Surgeon of the American Expeditionary Forces. He was detailed at these headquarters to the hospitalization division. His task was simple—all he had to do was to produce bed capacity for the sick, injured and wounded of the American Army in France.

What this task actually amounted to, space forbids to narrate, and our readers are referred to preceding issues containing the memoirs of our Dr. Blech in the World War. Suffice it here to say that the task was a gigantic one, and it reflects glory on our regular army medical corps that, irrespective of the huge number of casualties sustained by

our forces overseas, there was at no time a serious inadequacy of shelter of excellent quality or a lack of professional personnel and equipment, all of which could favorably measure up with any well-appointed civilian hospital working under normal conditions.

While it can be easily conceived that this was not a one man's job, Colonel Fife played a tremendously important role in the achievement of this almost superhuman task, and we have it from many reliable sources that he accomplished what he set out to do by firmness, devotion to duty, tireless energy, setting an inspiring example to all medical officers with whom he came in official contact. Yet, in spite of his great authority and despite many anxieties and vexations, he never misused his powers, but treated everybody, no matter how lowly in military rank, with kindness and courtesy; factors which stimulated all to give the very best in them to the service, even to the extent of great personal sacrifices. Colonel Fife has received a number of important foreign decorations, including that of the Legion of Honor. Yet, as may be seen on the accompanying frontispiece, the Distinguished Service Medal, bestowed upon him comparatively early during the war, in recognition of his stupendous services, occupies the place nearest his heart.

Colonel Fife has now another task which, in many respects, is as important as, if not more so than, that performed during the war. He is assigned to duty in the office of the Secretary of War and one of his duties is the organization of a service that will utilize our national industrial and manufacturing resources for the purpose of insuring immediate and adequate supply of all material wants of a huge army, in the event of another war.

Preparedness is not only a good preventative of war but it is prognostically a favorable assurance of the outcome of war, should another one be forced upon us. If this were to occur within a decade or two, the fruits of Colonel Fife's labors will be ours. The medical profession has reason to be proud of the type of our medical officers that he represents.

Time must not be counted by calendars, but by sensations, by thought.

TOO MANY DOCTORS—OR TOO FEW?

Since the population of the United States has changed in character, in so far as the agricultural population diminished numerically, while the industrial (that is to say, the workers in factories and manufacturing centers) increased, the problem of distribution has become a very difficult one in many directions. Strange as it may seem, it even affects the medical profession and, according to localities, we are told that the medical profession is overcrowded and again that there is a serious and alarming dearth of medical men.

Regarding the latter, a clipping from the *Louisville* (Ky.) *Post* recently came to our attention in which there was a correspondence calling attention to the shortage of doctors that is facing the people of Kentucky and more especially eastern Kentucky.

"Five years ago," the correspondent says, "I moved to Spencer County from Estell County, and, about eight years ago (or about the time that the law was changed requiring more qualifications before entering medical schools on the part of the student), I remarked that there would never be another doctor in eastern Kentucky." "And," he continues, "from that day to this, I have never heard of anyone from up there entering medical college, although I have made diligent inquiry. Those people can not give their children high school, then two years in college and then six years in medical school. Of course, there is something to be said for qualifications, but we had better have for future generations the same kind of doctors that we have now than to have nothing at all. Those we have now went to medical school four years, of six months each year, and that gave teachers a show to be doctors."

Commenting upon this correspondence, the editor concedes that there is a shortage of doctors all over the country districts in Kentucky, and he admits that it presents a very serious situation. Indeed, he has been informed that

"there is one county in Kentucky that has not a single doctor, while many counties are insufficiently supplied. Moreover, the situation is getting worse instead of better. The older men are getting older and the young men, after spending or borrowing money for a long and expensive medical education are simply forced to settle somewhere where financial returns may reasonably be expected to be prompt."

The crux of the question seems to lie in the concluding remarks. The suggestion tending to lower the qualifications for admission to the medical school and also for admission to licensure are not well taken, we believe. It would be a serious mistake, in our opinion, to retrogress and to lower the educational requirements. Ways and means should be found to supply mountain districts and country districts with medical service by a more equable system of distribution. It is by no means only the state of Kentucky in which there exists a dearth of doctors. The same complaint comes

from some districts of Tennessee, of South Carolina and of other states.

It is undoubtedly true that, under present-day conditions, the acquiring of a medical education is unduly expensive. Not only does the high cost of living persist, but the time required to complete a course of medical study and to round it out by the obligatory year in the hospital is now longer than it has ever been before. Under these circumstances, the student whose means are seriously limited, or who is obliged to earn at least part of his living expenses, is gravely handicapped. Most young graduates, we apprehend, are more or less in debt when they receive their diplomas and, as the editor of the *Louisville Post* says, are simply forced to settle somewhere where financial returns may reasonably be expected to be prompt.

It seems as though we had arrived at an *impasse* for which a solution is difficult to find. As already said (and we have made the same remarks before now), we do not believe that it would be wise to lower the educational qualifications or to shorten the prescribed period of the medical curriculum.

Still, one might think of a way through which, after four years of study, students would be granted a license to practice as general practitioners, after having complied with certain minimal requirements, while those who desired to enter a specialty, including surgery, or to adopt an academic career or to devote themselves to research work, would be obliged to spend an additional two, three or more years in college before they could go up for certain supplementary or additional degrees.

It is true that it would not be sufficient for the general practitioner to learn the "rudiments" only of the medical sciences. Even he should be thoroughly trained in the fundamentals and in the clinical branches. Nevertheless, it can not be denied that there are certain studies of which but little sticks in the minds of the graduates, those excepted who follow on in the same directions and give special attention and special study to these branches of the medical sciences. It may be recalled that, in some other countries, license to practice is given often without a medical degree, simply on the result of a final examination. The additional study and work for the degree, for preparation for surgery and the specialties, and for advanced or special investigations are not obligatory and are undertaken only by relatively few men.

While the foregoing presents suggestions that might possibly be developed and worked out into a new system of medical licensure, it would require time. Yet, life is short, as has been remarked before now.

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We believe that there is available a means for solving the existing difficulties by taking steps to bring about a better distribution of physicians. All too many young graduates are tempted by the proximity of dispensaries and clinics, by the conveniences and fellowships of the cities and by the relatively easy work of city practice, which, moreover, brings better financial returns, at least in some districts of each city. Nevertheless, when it comes to actual poor-practice, in tenement districts, and even in the suburban districts inhabited by the smaller wage workers, the financial returns are small enough and the work is sufficiently exhausting to make many a city physician wish that he might be in more pleasant surroundings.

Surely, there are numbers of young medical men to be found in every city whom it would not be difficult to induce to change their locations, even if it were a question of moving to country districts where the emoluments would be slight financially, while the returns, consisting in experience, in excellent work to be done, in the affection and esteem of the people and in many other ways, would be great. There would be required a sort of clearing house through which localities in need of medical men could be supplied, while city physicians willing to move to country localities could have their attention called to existing opportunities.

It is true today, as it was a generation ago, that no better apprenticeship can be served by one wishing to become a PHYSICIAN than a period (five or ten years) of practice in the country. There are few, very few, young graduates who are physicians when they have acquired their doctor degree. Physicians are not manufactured or produced in schools. There they make doctors of medicine. Physicians are the result of development. They *become* such through hard work, through many failures and disappointments no less than through successes. They must pass through physical, mental and spiritual tribulations and trials; they must develop their own human nature through contact with others, such as it is possible especially in the country districts where people live closer to nature, lead simpler, less artificial lives, where it sometimes seems to us they are more human

than they are in the cities.

The physician, then, is the result of years of work, of study, of human experience, human suffering; his best nursery places have always been found in the country among the poor rather than in the hospital, in the dispensary or in the city.

Now, if ways could be found through which those young doctors of medicine, who really want to become physicians, might have it made possible for them to be established in districts where medical service is urgently needed, they might spend a period of five or ten years in country service and then, again through some clearing house, return to cities or perhaps become associated with medical schools or hospitals, not only for more advanced work but for teaching. It must not be forgotten that James Mackenzie insists strongly upon the utter dependence of real medical progress upon the work of the general practitioner. If the young graduate, trained in medical investigation, be sent out to give the service that is needed by the people, he will by way of compensation have an opportunity to study disease in its very incipiency and may, in that way, follow Mackenzie's reasoning, may foster and promote the sum total of medical knowledge, affording much valuable material for further study and scientific investigation.

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As to the ways and means that may have to be discovered for such clearing house service, we are thinking of an article that appeared in the *Dearborn Independent* for June 2, and in which "an experiment" is described that was recently made in Sharon, Kansas. It appears that this little town had no physician and wanted one. A former incumbent of the practice had left to do postgraduate work and then settled to practice in Wichita. One reason was, undoubtedly, that the financial returns from his practice in Sharon had not been sufficient.

Dr. E. S. Haworth finally was induced to return to Sharon by being guaranteed a definite minimum income. This came about through "the Sharon Health Association which has 204 members, a chairman, secretary, treasurer and board of directors. The dues are $15 a year. In return for the payment of dues, the members get medical attention without charge. Of the 204 members, more than 180 have had the influenza in the last few months. Their doctor bills would have mounted to more than the dues.

"The dues are paid at the rate of $7.50 in advance, every six months. The officials pay the doctor a salary of $250 a month. He provides a motor car and buys the oil and gasoline. In case the roads become impassable for motor cars, the patient must provide transportation. The doctor also is given, free, a telephone, an office, light and fuel.

"Calls to all members living within six miles of the town are made without charge. Outside that zone, a charge of $1 a mile from the zone boundaries is made. Obstetrical cases pay an additional fee of $10 which goes to the association. From that source, the money is obtained to pay office rent, and for fuel and light bills.

"Night calls are those made between 10 o'clock and 5 o'clock. For them, the members are charged one-half the rate fixed by the state medical association. In emergencies, however, like the influenza epidemic, when calls came so rapidly, the doctor worked late into the night making them, no extra charge is made. The physician is allowed to practice outside the association and the money thus obtained becomes his personal funds. If, however, a member of the association needs a physician while such outside calls are being made, the physician is liable for the fee of a neighboring doctor who may be called in.

"If hospital treatment is necessary, the doctor accompanies the patient to the hospital for expenses. Provision is made for calling other doctors in consultation.

"One result of the experiment at Sharon has been to do to medical treatment what the nation long has done with the schools. The member with few children or none has helped pay the doctor bill of the poorer family with many. The member with 10 children pays the same dues as the member with none. Children of the poor family get the same quality of treatment as those of the wealthier parents. Yet, the dues are not a burden on anyone.

"Another result has been, to put to work in practical fashion the principles of preventive medicine. When, under the old system of charging for every attention of the doctor, one of the children complained of a sore ear, it was given no treatment or a little sweet oil was poured into the ear at home. Now he goes to the doctor the first time he is in town. Thus a child may be saved the suffering and annoyance that goes with a running ear."

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It is easy to see that such an arrangement possesses many advantages and relatively few disadvantages. The doctor is assured of a definite minimum income which may be increased through outside work. Except in periods of epidemics, he will have time for reading and study and it would be an easy matter to provide for an annual vacation by engaging a substitute.

On the part of the patients, as Doctor Haworth points out, they do not have to worry about the doctor's bill; nor do they fear that he is running up bills on them unduly. Commonly, they consult him at the first sign of anything wrong and, in that way, he is in a position to prevent much illness. Naturally,

it is to his interest as well as to theirs to get his patients well as quickly as possible and to have them stay well. It makes his work easier. A further benefit of the arrangement is, that the doctor is in a position to impose necessary provisions for the prevention of illness; in short, to teach the people the gospel of preventive medicine.

It seems to us that such an arrangement, with modifications as they may be called for, would work well in almost any circumscribed locality. If the people themselves could not afford even the small membership of the health association, the township or the county might provide the funds or, sometimes, some wealthy and public-spirited citizen might be willing to create an endowment fund.

Naturally, many details remain to be worked out. So far, the plan has worked exceedingly well in Sharon. Still, it is susceptible of improvement. The point is, that the community is well taken care of in its need for medical service and the local doctor does not need to worry about bad bills.

Under such circumstances, it would pay any young graduate well to spend a period of from five to ten years in country practice. After one lustrum (a five-year period), he should be obliged to spend one or two months in postgraduate work and this should be repeated every five years. The contracts might be made for periods of five years so that, at the end of any one term of service, the doctor might follow his inclination for special work, or city work, or for prolonged postgraduate study, if he so wished. There would be ample time to provide for a successor who could then take up the burden and assume the privileges.

Let us have a full discussion of this very important subject. Let us get down to brass tacks and talk fundamentals. The problem is not so much one of medical education, of lowered requirements, but, we are sure, one of distribution regulated by supply and demand. If the communities can be shown a way, after the example of Sharon, Kansas, how to secure a local physician, their commonsense and their practical good business sense will incline them to look upon it favorably, even though it constitutes an innovation and something that our fathers and grandfathers did not do.

The man who knows it can't be done counts the risk, not the reward.—Elbert Hubbard.

MOTHERS' HEALTH CLUBS

Somewhat belated, there came to us, through the courtesy of Dr. E. H. Pirkner, an article issued through the Health News Service from the State of New York Department of Health. It related to the commemoration of Mothers' Day and enjoined safeguarding motherhood as the best way in which to pay tribute to the mothers.

Reference is made to the work of the Division of Maternity, Infancy and Child Hygiene of the State Department of Health (New York), which is trying to help localities in their efforts to make motherhood safe. "It is important that every mother should be taught two things: First, to consult her physician early, and, second, how to keep herself well before she becomes a mother. In many parts of the state, Mothers' Health Clubs are being organized. These clubs are for the purpose of teaching women how to get ready to be mothers. The teaching is done by public-health nurses . . . "

So far, so good. Nobody could have any quarrel with a movement tending to bring about popular education in the hygiene of motherhood; for, the advantages of such a movement are self-evident. The State of New York and other states also are doing commendable work in this direction, and all states in the Union should imitate this splendid example.

Nor can objections be raised against the teaching being done by public health nurses who, of course, are specially instructed in the subjects that they are to teach. If they succeed in teaching every mother, first, to consult the physician early and, second, to keep herself well before she becomes a mother, much good will result. Unfortunately, public health nurses and other official nurses sometimes have a little habit of trying to eliminate the physician altogether and are prone to set themselves up as fully competent to give advice on any subject that might be presented. Manifestly, this is a serious mistake; the physician always should be the last authority in matters of health.

While the teaching of future mothers is an eminently proper humane and patriotic undertaking, it would be a mistake to assume that it has been inspired through the Sheppard-Towner Act and that nothing of the sort has ever been done before. We are informed that the New York State Legislature after all accepted the provisions of the Federal Act, although the state itself has done a great deal on its own initiative in the way of popular education and hygienic supervision. We doubt that the federal alleged assistance accruing through the provisions of

the Sheppard-Towner Act will improve matters or will bring about such improvement as could not have been materialized without the interference of the Central Government.

The important thing, it seems to us, is the instruction given to actual and future mothers and the assistance that has, for years, been offered to them, not only by state departments of health, but also in municipalities and in smaller circles.

A lot of us need to be protected by the rest of us from all of us.—Harold Bell Wright.

VICARIOUS MENSTRUATION

Reports of vicarious menstruation are published occasionally and cases are frequently diagnosed in that manner, for the simple reason that, during the time when unusual periodic attacks of bleeding occur, the regular flow of blood from the uterus is in abeyance. Gould and Pyle ("Anomalies and Curiosities of Medicine") speak of "vicarious, or compensatory, menstruation," citing numerous instances of bleeding from the skin, from the breasts, through the eyes, from the ears, from the mouth, from the extremities, through old ulcers, wounds or cicatrices, by the rectum or the urinary tract, and so forth. Many of the reports of such cases go back to old times and, no doubt, present "physiologic curiosities of considerable interest."

Although it must be admitted, Kisch ("The Sexual Life of Woman") says, that confusion has often occurred between vicarious menstruation and hemorrhages dependent on preexisting genuine organic disease, such as hemoptysis due to pulmonary tuberculosis or hematemesis due to gastric ulcer, "still, the existence of a true vicarious menstruation must be regarded as fully established."

According to Crossen ("Diseases of Women"), vicarious menstruation is the discharge of blood from other parts of the body at the menstrual time; the vicarious flow is likely to be irregular, appearing only at some menstrual period. It is rare in any form and is found principally in nervous women in whom there is imperfect development of the uterus or imperfect performance of its functions.

DeLee ("Principles and Practice of Obstetrics") narrows down the question by demanding that, in typical cases of vicarious menstruation, three conditions must be present—the uterine flow must be absent, the periodicity absolute, and the organ from which the vicarious discharge comes normal. Such cases, DeLee adds, are rare, but authentic ones have been reported; for instance by Kisch (*loc. cit.*). DeLee points out that, "sometimes the organs from which the hemorrhage comes are diseased (as, ulcer of stomach, tuberculosis pulmonum, ulcer of the nasal septum, hemorrhoids, chronic otitis media), and in themselves would give rise to a bleeding surface; but, when the periodicity of the flow corresponds to that of the menses, the latter being absent, we still speak of vicarious menstruation. Occasionally, the usual flow is combined with a blood discharge from another organ. After castration, vicarious menstruation has been occasionally observed, and, during pregnancy and the amenorrhea of lactation, a vicarious flow may occur from another part of the body. The author had a case where, for nine months after delivery, the patient had a bloody discharge from the nipples lasting several days and recurring every twenty-eight days. The nipples were healthy and the patient amenorrheic. These hemorrhages are similar to the nosebleeds observed during pregnancy, the puerperium and the menopause."

Our interest in this problem was aroused by a talk given recently before the Chicago Academy of Medicine, by Dr. Emil Ries. Doctor Ries pointed out that, for menstruation to occur, two things are necessary, namely: ovarian substance and a uterus (both capable of functioning, be it added). The ovary does not need to be intact; in fact, in case the organ has been removed, it suffices for a portion of the organ to be inserted somewhere else for the uterine flow to occur. The tubes are not essential, nor is the cervix, but the uterine body is requisite.

That disposes at once of those instances of alleged vicarious menstruation that have been reported in small girls before puberty and in older women after the menopause. In these, as Ries asserts, there must have been some irregularity, some structural anomaly existing, the detection of which would have explained the occurrence of bleeding while its restoration would have caused it to cease. For instance, in CLINICAL MEDICINE for 1920 (Sept. issue, p. 625), a case of supposed vicarious menstruation in a little girl, eight years of age, is reported who had had nose bleed occurring every three months, ever since she was three years of age. It was pointed out editorially that precocious menstruation that was at the same time vicarious had never been reported and that it was very difficult to say whether this was an instance of vicarious

precocious menstruation. As a matter of fact, such a diagnosis would be rather improbable, because, at the age of three years, and even at eight years, neither ovaries nor uterus are able to function, at least in our latitudes.

In the same report, a case was related concerning a little girl who bled periodically from the nose until she was about seventeen years of age, when menstruation was established. From that day, she menstruated regularly with no more bleeding from the nose.

These and virtually all other cases of alleged vicarious menstruation do not comply with the conditions that would constitute them cases of menstruation and its vicarious nature. Doctor Ries showed, during his talk that, in all such instances he found definite local causes for the discharge of bloody fluid and that the phenomenon could always be explained and made to disappear.

It will be useful in this connection to inquire just what menstruation is. Opitz ("A Textbook of Physiology") says that the discharge of blood from the uterus constitutes only one part of the menstrual period which begins several days earlier, being ushered in by fatigue, pains in the back, headache, nervous irritability, and so forth. The second stage, that of flow, is followed by a third, a period of restitution, which occupies almost two weeks and is followed by a few days of rest. During the years of puberty, the life of woman, therefore, runs in cycles, comprising periods of premenstruation, menstruation, restitution and complete rest. The endometrium of the uterus presents a comparatively normal appearance only during the last stage of restitution, and the succeeding (comparatively brief) period of rest. During the premenstrual state, it shows evidences of proliferation, swelling and hypersecretion. The cells of the stroma lose their elongated shape and become more rounded. The capillaries are greatly distended with blood which in turn gives rise to a hyperplasia of the uterine glands. A few days later, blood begins to escape from the superficial vessels and forces its way into the lumen of the uterine canal and, through the constricted orifice of the cervix, into the vagina. But this hemorrhagic extravasation is not associated with any considerable destruction of tissue; in fact, the uterine lining remains rather intact, although it may be perforated here and there and even partially loosened from the underlying layers by spaces which are filled with blood. In most instances, this congestion also involves the tubes, ovaries and external genitals, but these organs do not contribute to the hemorrhagic discharge and, hence, menstruation is to be regarded essentially as a phenomenon of the uterus.

As to the relation between menstruation and ovulation, various hypotheses have been offered. The most recent one is that offered by Frænkel and based upon the hormone doctrine, namely, that menstruation is dependent upon the formation of an internal secretion by the corpus luteum which controls the blood supply of the ovary. It is quite evident that menstruation is dependent upon some activity of the ovaries, because the removal of these organs gives rise to an artificial menopause characterized by cessation of the menses and by atrophy of the uterus. This cessation of the menstrual flow does not result if the excised ovaries are transplanted into the uterus or elsewhere into the abdominal cavity. If menstruation has ceased, it can be made to recur by grafting a piece of ovary into the uterus or under the skin of the abdomen.

We have then quite manifestly in menstruation the result of interrelating function of ovarian substance and the uterus, and Doctor Ries was justified in demanding that both must be present for menstruation to occur. Bleeding in women, whose ovaries have been removed or are not yet or no longer functioning, because of immaturity or of atrophy, manifestly can not be called menstruating and, therefore, they certainly can not experience any vicarious menstruation.

If the term vicarious menstruation is to be retained at all, it would have to be used to designate a flow of blood that is vicarious inasmuch as it is not true menstruation. As already remarked, however, such a bleeding usually has no relation with menstruation, either direct or indirect. As Doctor Ries remarked in concluding his talk, "Vicarious menstruation is all right. But, it is neither vicarious nor menstruation."

The highest reward that God gives us for good work is the ability to do better work.—Elbert Hubbard.

CODDLING AND SKIN-BREATHING

In another department of this issue of CLINICAL MEDICINE (p. 515), Doctor Page breaks a lance in behalf of two of his favorite and pet ideas. He claims, justly, we believe, that we coddle ourselves too much, that we do not give our bodies a chance to eliminate all waste products of metabolism, and that we

deliberately foster in ourselves a vulnerability for "colds" in so doing. People who, like himself and many of his patients, wear the lightest and thinnest underwear, reserving heavier outer coverings exclusively for outdoors in inclement weather, become, by so doing, protected against "colds" and are, moreover, in far better health generally.

Another of Doctor Page's favorite teachings is that we should remember the essential unnaturalness of the upright posture, since this permits the abdominal organs to sag down and to suffer displacement. Doctor Page advocates, even in the case of adults, occasional creeping and crawling on all fours. He insists upon it that children, even tiny infants, should be placed upon their little tummies quite frequently and should be encouraged to crawl. On no account, he says, should they be urged to assume the upright position until they do so of their own accord.

Speaking of the matter of clothing, it seems to us that, in many respects, we *are* less subject to "colds" now than we were thirty years ago when woolen and flannel underwear was considered the proper thing, at least for winter, and when the same was *suffered* even in summer, although in lighter weights. If we compare those awful suits of underwear that we used to inflict upon ourselves with the pleasant, convenient and comfortable B. V. Ds. of today, we shudder in retrospect.

In this matter, as in so many other directions, women seem to have solved the problem by intuition (some may say, because of their inherent vanity; but—are not men every bit as vain as women?) rather than by reasoning. At any rate, they made a change largely because of greater comfort and, true, because of deference to style. Our mothers and grandmothers, those who were young women in the seventies and eighties, and even in the nineties of the last century, are horror-struck at the slimness of apparel declared to be absolutely sufficient by our young ladies from seventeen to seventy years of youth. And, yet, it seems to us that these latter are far more reasonable, because they are lightly clad indoors, where custom and preference demand high temperatures; and wear furs and other heavy coverings out of doors.

We men are not quite so well off in that respect, unless, indeed, we shed coats and vests as soon as we enter the house. That, though, is not always feasible and, very often, we are too warmly clad indoors and, by comparison, insufficiently so out of doors.

Experience has shown that there is much of merit in Doctor Page's contention that the skin of the whole body should be given an opportunity to function. We are informed by patients who are taking regular sun baths "in the altogether" that they feel invigorated and relieved, that they experience decided benefit from them. If we find the time to loiter after the morning's shower bath, and not have to rush into our clothing so as to make the next train, the physical well-being that is experienced is decidedly pleasant.

It seems to us to be quite true that we coddle ourselves too much and that a reasonable amount of "hardening" would soon take the reproach out of that term; since it would, indeed, result in a lessened susceptibility to changes in temperature, to drafts, to colder air.

As to Doctor Page's ideas regarding the upright posture, that, too, must be conceded a considerable degree of reasonableness. The benefits experienced under certain conditions from the periodical assuming of the knee-chest position, the relief from abdominal dragging and distress after lying for a while with hips raised or the body almost inverted, speak strongly in favor of the claims advanced. The advantages of letting infants crawl at an early age are too obvious to be in danger of contradiction. We ourselves have put babies as small as two weeks old on their faces and found them to develop far more vigorously and sturdily than did their contemporaries who were kept on their poor backs persistently or were at most permitted to lie on the side. Infants should be undressed several times daily and should be permitted to lie naked, kick and crawl, so as to exercise their limbs, and the muscles of their whole bodies, in fact. That will make for better development and improved health.

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An interesting coincidence made it happen that, on the evening of the day when we dictated the preceding editorial, we came across a reference to an article by the late Dr. S. V. Clevenger,[1] which appeared in the *American Naturalist* for January, 1884, under the title: "Disadvantages of the Upright Position." A copious review of this interesting article is contained in Victor Robinson's clever biography of Clevenger, whom he designates as "The Don Quixote of Psychiatry." The book and particularly this portion (page 158) are recommended for study. We shall have more to say about the book itself which, so far, has not been reviewed by us through force of circumstances.

URINE AS A DIAGNOSTIC AND THERAPEUTIC AGENT

The article on the subject given in the title, which we publish in another department of this issue of CLINICAL MEDICINE (p. 525), was accepted not in order to announce or vaunt any remarkable or "new" method of treatment, nor for the purpose of ridiculing something with which we are not exactly in sympathy. Our idea was, to submit to our readers a method which is advocated in all sincerity by a practicing physician, which is based on ages-old principles and for which the most astoundingly favorable results are claimed.

The author asserts that, by employing urine specially prepared as a potent remedy (the urine always being secured from the patients to be treated) is tantamount to using "Nature's expression of pathological conditions" and that it is an isopathic procedure. The author refers to the opinion expressed by several physicians of note (beginning with Hippocrates) that a patient carries with him the remedy for the curing of his morbid state. While in many contingencies those general statements may be entirely correct, it would have to be proved that the excretion of the kidneys is the vehicle in which the remedy for the curing of the morbid state is contained.

We are not aware that anything but excretory, or waste material, has ever been discovered in the urine. The therapeutic idea in general (upon which the employment of the patient's own urine is based) results in what is *de facto* an autogenous vaccine, or bacterin or, at any rate, an autogenous bacterial preparation; it being customarily the pus or other wound secretions that are employed for the curative remedy. In these discharges, the bacteria responsible for the lesions are present in large numbers. What the patient actually gets is a suspension of these bacteria which, entering the circulation after absorption, stimulate actively the process of immunization which hitherto had been deficient.

In so far as the bacterial content of the urine (or of the feces, for that matter) is concerned, there can be no objection whatever to utilizing these excretions as sources of bacterial remedies. Indeed, the socalled entero-antigen of Danysz (*N. Y. Med. Jour.*, Jan. 4, 1922, and CLINICAL MEDICINE for April, p. 261) is based upon that very idea. A portion of fecal matter is cultured and all bacterial growth is utilized for the preparation of an autogenous vaccine. Similar bacterins have been prepared from the urine, after sedimentation and culturing.

That, however, is at considerable variance from the method advocated by Doctor Deachman. He employs the desiccated urine, the product of the desiccation having been triturated, presumably with sugar of milk, to the third or sixth Homeopathic potency. We are not going to cavil at the high potency and claim that, substantially, nothing of merit could be contained in it. We have become accustomed to exceedingly small doses of powerful medicaments and are always willing to be shown.

The utilization of excreta, to which, undoubtedly, the urine belongs, reminds us of the fact that this has been practiced for many centuries, although it was not always a question of opotherapy. To this day, there exists a popular belief that the power for good is inherent in these objectionable substances, and we remember repeated instances in our own practice when farmers or their wives informed us that their children had received doses of urine, either paternal or maternal in origin, for the treatment of convulsions; but, strangely enough, without success.

It is not so many hundred years ago that this form of therapy was practiced rather generally and, in 1696, Chr. F. Paullini devoted to the subject a monograph, entitled "HEILSAME DRECKAPOTHEKE."

Delving, as a matter of historical curiosity, into two volumes of Hovorka and Kronfeld, "Vergleichende Volksmedizin," we find that urine is employed popularly in various directions. It may be voided by a fever patient or by one with jaundice upon a bit of fresh meat which is given to a dog to eat. It is said that the patient will recover, while the dog becomes ill. The Korjaken, who live in the extreme north of Russia, and who are very fond of intoxicating drinks, utilize a fungus, *Agaricus Muscarius*, which is collected in the fall and dried and is eaten during the winter on special occasions. It produces a severe intoxication which is prolonged by the very simple practice of making the "patient" drink his own urine which is highly charged with the excreted toxins. The intoxication can, in this manner, be prolonged almost indefinitely.

Among other unappetizing remedies employed for gargling, urine and infusion of horse droppings are in good repute in some portions of Germany and Austria. In croup, urine, cow droppings and other things are used for external applications. A certain

author of the last century recommends, for goiter, adding urine voided at three different times to a sponge and the head of a pike. The three articles are placed in an earthenware pan and covered securely. It is then exposed to fire until everything has been incinerated completely. The powder is placed in a flask, good white wine is added to it (shaking well), and, on the day following full moon until the day of new moon, one glass is to be taken in the morning fasting.

For consumption, a fresh egg is placed in a saucepan and the urine of the patient is poured over it so that it stands one-quarter inch higher than the egg. The saucepan is placed on the fire. When the egg is hard-boiled, the shell is taken off and, with a bit of wood, holes are punched into the white down to the yolk. It is then returned into the urine, cooking once more until the latter is evaporated. After this, the egg, together with the shell, is buried in a red-ant hill, while the saucepan is thrown into running water, down stream, by no means up stream. As soon as the ants have eaten the egg, the patient will gain in strength.

Dropsy, or various swellings of the body, are treated, among other things, by making the patient drink his own urine in the morning fasting, or he may hang a hog's bladder filled with his urine into the chimney. Italian physicians employed heterogenous urine (that is, urine of animals), against dropsy, believing that the urinary secretion is stimulated in that manner. Even Morgagni reports of one of his patients that he drank daily from seven to thirteen ounces of cow's urine.

Many savages are said to devour their own excreta and to offer ritual or religious reasons, mainly claiming that urine and feces are the seat of the soul, and that they obey a sacred custom.

Urine is also recommended against gastralgia, for which it may be hung up in the chimney in a hog's bladder.

Against rheumatic pains and inflammatory rheumatism, the Magyars wash the painful places with urine or they make compresses with the same substances.

Urine is considered also as a useful cosmetic.

It is employed against itch (either autogenous or heterogenous) against freckles and even against birth marks. Clinical observation does not seem to have shown that bedsores may be due to emaceration of the skin by urine, and it is recommended to wash the back with freshly-voided urine, with vinegar or with good brandy, in order to prevent bedsores. Conjunctivitis is said to yield to all sorts of eye washes, such as lemon juice, saffron, milk (especially human), spirits of camphor, urine, saliva and other attractive things.

Enough has been said to show that the faith in the impossible, the *outré,* is strongly inherent in human nature, especially in those whose thinking has not been influenced by sound and logical ideas. The therapeutics of the human excretions and of those of animal origin is neither new nor isolated. It is found almost everywhere and always is inspired by the thought of some superior natural agency being involved. While all these things are different from Doctor Deachman's arguments, we can not help being reminded of them, especially since he places such stress on the remarkable curative powers of the secretion of the kidneys.

We cannot deny that the urine often may contain bacteria or bacterial toxins that are eliminated through the kidneys. In that event, the therapeutic administration of urine would amount to the use of bacterin or toxin preparations and good results must be ascribed to that fact.

Men do not lack strength; they lack the will to concentrate and act.—Elbert Hubbard.

"VACCINES FOR BROKEN LEGS"

In all probability, the author of that remarkable production, bearing the title given in the caption of this editorial and which was published in *Hearst's International,* a few months ago, thought himself a wonderfully clever chap. With equal probability, some of his admirers and many foes of the medical profession chuckled at the successful(?) "exposure" to which he believed to have subjected physicians employing bacterial vaccines other than those authorized by laboratory men and only in conditions clearly due to the pathogenic action of single bacteria.

Parenthetically, it may be remarked that such single infections hardly ever occur, and that monovalent bacterial vaccines have but a very limited sphere of action, while polyvalent preparations are constantly proving themselves as eminently effective in numerous pathologic conditions.

We had something to say about this particular criticaster of physicians, in CLINICAL MEDICINE for January (page 55) and for February (page 87). Today, we are very anxious

[*Concluded on page 529.*]

Leading Articles

The Therapeutics of Radiant Light and Heat

By WILLIAM BENHAM SNOW, M. D., New York, N. Y.

THE consideration of radiant energy from luminous sources, natural and artificial, as applied to therapeutics, dates in the more recent times from the introduction, by Niels Finsen[1] (1860-1904), of the use of the higher frequencies but with particular reference to the ultraviolet rays from the sun's rays and the electric arc in the treatment of the two forms of lupus.

Later, in 1898, Dr. Margaret A. Cleaves published a paper on the use of the electric-arc-light bath in the treatment of pulmonary tuberculosis[2] and, in a work by the same writer on Light Energy,[3] published by Rebman and Company, she gave an elaborate consideration of the different form of radiant light and heat.

The writer of this present contribution published a work, in 1908 and 1909,[4] which was printed in a series of paper and issued in book form in 1909. In this work, were considered the then to date methods of using the incandescent and arc lamps and an introduction of the first published consideration of *convective heat*[5] in contradistinction to conversive heat, or heat produced in the tissues by the penetrating radiations and high-frequency diathermy.

The later published discoveries by Rollier, of Switzerland, on the use of the sun light in the Swiss alps, in the treatment of tuberculous joint affections and, later, the introduction of the mercury vapor lamps, by Peter Cooper Hewitt, and their employment in quartz tubes by Kromayer, and the later development of their therapeutic indications, by numerous writers, have marked the gradual development of the scientific therapeutics of radiant energy which has placed it in a position second only to electrotherapeutics in the role of valuable therapeutic measures.

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Radiant energy from luminous sources, as first considered by Sir Isaac Newton, was thought by him to consist of small particles of matter, or corpuscles, that were energetically projected through the ether from the sun, producing physical and physiological effects as they come in contact with solid bodies, and light as experienced by the eye with sight. This theory of Newton's was superseded by the later theory of Huygens which introduced the wave theory of light, the theory that seems demonstrable and rational and is at the present time accepted and includes in its observations the x-ray and other radiations and emanations.

The luminous radiations include the wave lengths of the solar spectrum with the higher frequencies of the invisible ultraviolet (extending beyond the violet). These varying frequencies are measured in terms of Angstrom units. The measures of the wave length of light, as numbered in metric units, are as follows:[6]

"As measures of the wave length of light, a number of metric units have survived and are liable to lead to confusion:

"The micron, denoted by m (Greek), is equal to a one-thousandth of a millimeter.

"The mm (Greek) is equal to a one-millionth of a millimeter.

"The Angstrom unit equals one ten-millionth of a millimeter.

"As seen, the basis of these units is the millimeter, which was temporarily used as a standard unit of length before the establishment of the present system of units, which is based on centimeter length, Gram mass, and second-time measure.

"A radiation of the wave length of 60 micro-

[1] Finsen first published his observations on the stimulating action of light in 1895. At the same time, he pointed out that the chemical rays might be useful in the treatment of disease. "Light Energy" (ref. No. 3, page 333).

[2] Transactions of the American Electrotherapeutic Association, 1898. *New York Med. Journal*, Jan. 28 and Feb. 4, 1899: The Electric Arc Bath, by Margaret A. Cleaves, M. D.

[3] Margaret A. Cleaves, "Light Energy," New York, Rebman and Company, 1904.

[4] "Radiant Light and Heat and Convective Heat," by William Benham Snow.

[5] "William Benham Snow, *loc. cit.* Contrasting Conduction and Convection, page 93.

[6] Steinmetz, Radiation Light and Illumination, page 7.

centimeters thus can be expressed also as: 6000 Angstrom units, or 0.6 m (Greek), or 600 mm (Greek)."

"Extending down from the violet, indigo, blue, yellow, green, orange and red are the colors of the prismatic rays properly known as light-rays.[7] The visibility of radiation is greatest between the wave lengths $50x10^{-6}$ to $60x10^{-6}$ and good between the wave lengths $41x10^{-6}$ to $76x10^{-6}$, but extends more or less indistinctly over the range of wave lengths from $33x10^{-6}$ to $77x10^{-6}$ and faintly even as far as $30x10^{-6}$ to $100x10^{-6}$."

The invisible spectrum of the ultraviolet rays and the infrared (below the red), cannot be properly considered as light; for they are not visible. Only the visible rays should be termed as light, but they often are incorrectly called light, as have x-rays also been so termed. We therefore express the ultraviolet and infrared in terms of *rays* instead of *light*.

The range of infrared rays, as demonstrated by the thermopile, measured in terms of heat, is nearly as wide as the visible solar spectrum, indicating a range of frequencies of increasing wave length which have been properly designated as *heat rays*. These, however, are not alone the heat-producing rays, for the luminous rays all produce heat, diminishing in degree from the red to the violet. Practically no heat is produced by the emanations or radiations, of the higher frequencies. Heat is not produced by radiant energy until it comes in contact with resisting bodies when they are converted into heat by transformation of energy. Heat so produced is designated as *conversive heat,* and is transferred by *convection* throughout animal organisms by the blood stream, or by *conduction* in inert solid bodies. Radiant energy from luminous sources produces heat in the tissues to depths penetrated, accumulating heat in the fixed cells, with constant dissipation by the circulating blood stream.

Neither the ultraviolet rays nor the lower frequencies of greater wave lengths of the infrared rays penetrate glass. As shown in the case of the former, tanning and blistering does not occur and the glass bulbs become very much more heated by the radiations in carbon-filament light bulbs than with the fluorescent tungsten bulbs. When a natural blue-glass bulb is illuminated, so much heat is imprisoned by the resistance offered by the colored glass, that the latter becomes intensely heated by absorption of the luminous rays, demonstrating that the rays of the visible spectrum also produce heat.

The properties of light: (1) Radiations through space and nonresisting substances emit no heat. (2) Radiations are reflected from certain surfaces, as mirrors, water and other smooth, white or polished surfaces, when the angle of incidence equals the angle of reflection. (3) They are refracted towards a perpendicular when passing from a rarer medium to a denser medium, as from air to water, from air to glass; and from the perpendicular when passing from a denser to a rarer medium. (4) They are polarized when passing through certain substances, as feldspar. (5) They produce heat by convection, or absorption, when the radiations come in contact with resistant substances: or by conversion when radiant energy is converted into heat units. (6) When it passes into translucent substances, as human tissues, heat is produced as far as the radiations penetrate.

In accord with the physical properties the action of radiant-light heat production is considered here with observations on its effects upon the forms of life including the *antiseptic* effects and *reflex* effects from action upon the end nerves as influencing the deep spinal centers, the effects on *metabolism,* and the *chemical* effects from action upon the blood stream and as influencing the chlorophyl body in plant life. The higher frequencies have been considered as the chemical rays, though all rays (as Sir Oliver Lodge has said), undoubtedly "produce some chemical effects."

The Apparatus Employed

The apparatus employed in therapeutics may be divided into different forms and arrangements of the arc, incandescent and mercury vapor lamps.

The large incandescent light apparatus was first introduced as the high-candle-power lamp, or the socalled "leucodescent lamp," the advertising propaganda of which gave wide publicity to the subject of incandescent light therapy, in 1907-8; and then this form of therapeutics was extensively exploited with the profession. There followed the introduction of the established methods of using light from various types of applicators.

The smaller therapeutic lamps were first manufactured in such a way as to project a focus a short distance from the reflector. By the writer's insistence, the small reflecting lamps were finally properly made to reflect slightly divergent or parallel rays, in accord with the law of reflection which depends upon the distance at which the light is produced from the reflecting parabola.

[7] Steinmetz, *loc. cit.*, page 9.

The introduction of light-baths (arc and incandescent), as advised by Cleaves, Kellogg and others, came soon after the first use of artificial light in therapeutics.

The smaller multiple incandescent-light apparatus was introduced in the Woman's Hospital in New York City by Dr. Herman Grad and was later improved and made adjustable through the influence of the writer. These were perfected by the manufacturers in accordance with the expressed wish of the author for use during the late war, and were employed in all Government Hospitals throughout the country. Their introduction did much to bring the value of radiant light and heat to the attention of many members of the medical profession, who would not otherwise have learned of its possibilities.

It was in the army hospitals that the inappropriate term "baking" was introduced, and it is still unscientifically employed.

The mercury vapor lamp, invented by Peter Cooper Hewitt, and the principles employed with the quartz tubes, manufactured by the Germans and introduced by Professor Kromayer, established a more practical use of the ultraviolet rays with apparatus that is now produced by different manufacturers in this country in the form of both air-cooled and water-cooled lamps. These are now receiving general recognition by the profession as producing most satisfactory results in certain conditions, particularly as concerns effects on bacteria and fungi and as influencing metabolism.

Physiological Effects of Radiant Energy

The physiological effects of the forms of radiant energy, as suggested by the physical effects, may be divided into the action of heat as it affects the skin and underlying translucent tissues. The penetration of radiant energy into the tissues is proportional to the wave length; inversely, as the frequency, (except, as to the higher frequencies, as of the x-ray), they, in the words of Sir Oliver Lodge, "go straight on." The ultraviolet rays are very superficial in their effects, and very irritating to the surfaces to which they are applied, until the skin becomes tolerant with tanning, as is evidenced by the sunburns and blisters produced. The lower frequencies and greater wave lengths of the infrared do not pass through glass but do penetrate more deeply into the tissues than the higher frequencies of the infrared radiations. At the present time, it has not been determined at what wave lengths this characteristic limit of the degree of penetration through glass takes place, but the heating which occurs confirms the fact that some are absorbed. It is well demonstrated that the heating, or thermic, effects are manifested to considerable depth beyond the penetration of the rays of the visible spectrum.

1.—The effects produced are due to the physiological action of heat as indicated by the intense hyperemia produced at the surface and in the underlying tissues with diminishing intensity, as the energy of the rays is expended upon the resistant tissues, but extending to a demonstrable depth of at least four inches into the tissues. The degree of hyperemia varies as the heat impinging upon the surface penetrates the deeper tissues of the body. An intense reflex effect from the heat applied at the surface is induced in the deep spinal centers with marked responses of vital functions, indicated by an increased strength and volume of the pulse.

This effect is noted, particularly in pneumonia and shock, by an increased pulse volume, regulation and lowered frequency, and by an increased depth of respiratory excursions.

2.—*The antiseptic effects* of incandescent radiation affect some forms of germ life susceptible to heat and light, as are the gonococci and pyogenic bacteria; and by the *hyperemia* induced. The increase of phagocytic activity within the tissues which is present, with the increased flux of blood through the tissues and the effects of light and heat, constitute a combination of effects destructive of germ life which are derived from the visible and infrared incandescent radiations. These radiations, as derived from luminous sources, meet a larger scope of indications and are undoubtedly of greater therapeutic value than are the higher frequencies of the ultraviolet.

3.—*The antiseptic effect of the ultraviolet sun's rays* are remarkable, however, as influencing the natural conditions of environment by the purification of the atmosphere and the destruction of germs in water on the earth's surface. Those rays maintain the purity of the air and water for the safety of the animal species. When animal life is subjected to too-long and too-generous exposures to the ultraviolet rays, they may perish if unprotected by hair or clothing. They cannot, until gradually rendered immune, withstand the irritating chemical effects of these radiations. The green leaf protects the small animalculæ seeking the shade at the time when the sun's rays are vertical. The germs or fungi on the surface tissues, that are reached, are invariably destroyed by these radiations. If the radia-

tions were as penetrating as the spectral and x-rays, the problem of treatment of infection would be universally solved.

4.—*Chemical effects* are characteristic of all of the frequencies as affecting plant growth and development, and the effect upon the blood, as influenced by the increase of hemoglobin, and also as destroying germ life in the outer layers of the skin. The studies of Hess and others, as to the influence of the ultraviolet rays on rickets, establish a notable constitutional effect, but do not take note of the associated influence of the heat-producing rays which play a joint chemical action upon metabolism, with the higher frequencies. Those rays undoubtedly also add an important role in changing the condition of the blood subjected to the collective radiations of the sun and the radiations from artificial sources.

It will be seen by the foregoing, that the therapeutic indications for the employment of radiant energy cover a very extensive field.

Method of Radiation Treatment

Method: The employment of reflected incandescent light as a therapeutic measure requires certain definite methods of application, as to *time* and *intensity,* which should be followed in all cases in order to so affect the local processes that the administrations will be effective. The uniform rule as to time is, that exposures should be continued at each sitting for *at least one hour* in the severe acute cases (as of erysipelas), when the treatment should be repeated alternately with one hour's rest until the acute symptoms subside, and then less frequently until recovery is complete.

The intensity of treatment is dependent upon the skin toleration to the heat produced. By this should be understood, not the greatest degree of toleration of the heat, but at a temperature of a little more than comfortable heat. The degree of temperature is to be regulated by the distance at which the light is suspended from the surface.

That there is any such effect as "deep therapy", can be explained only by the fact that the number of infrared radiations are of greater volume, as from a carbon filament lamp or from applications projecting only red or infrared rays in greater volume. It must be understood that the skin toleration is governed by the intensity of the application.

As for the penetration of light; the light from a single candle will penetrate as far as similar radiations of high candle power, but the effect will be relative to the volume of radiations, so that high-candle-power lamps are only applicable to large areas, and in like manner a small lamp will be adequate for the treatment of smal areas, the skin toleration, as previously stated, determining the effect.

These general rules of the principles of application will govern the use of the rays, so far as it concerns the therapeutic employment of incandescent rays.

With the administration of the ultraviolet rays different rules apply; for the skin toleration of different patients to the irritating action of the ultraviolet rays, as to tanning and blistering, is variable, owing to differing idiosyncrasies, as is well known from the effects of the sunlight upon different individuals.

When giving extensive applications of ultraviolet radiations for the general therapeutic effect, it is customary to make the first exposures for one minute with the air-cooled mercury vapor lamps suspended at a distance of from 18 to 20 inches from the surface; the dose to be doubled on alternate days. In the treatment of some skin affections, however, it is customary to make the application for three or four minutes on the first day, in order to produce a blister, following it with heavy doses on alternate days. This method is successful in psoriasis and eczema. To produce a constitutional effect by action upon the blood content, it is customary to precede the nonblistering application of the ultraviolet by sufficient administrations of incandescent radiations to produce an active hyperemia of the skin, and so affect the circulating blood stream.

For the treatment of local infection, the exposures to the ultraviolet rays are usually made through a quartz applicator exerting pressure to render the tissues anemic, employing either the air-cooled or, preferably, the water-cooled mercury vapor lamp. It has been demonstrated, for applications to the mucous surfaces of the nares and other mucous cavities, that it is possible with the quartz applicator to convey the administration from the end of the applicator, as the ultraviolet rays will follow a curved course to be discharged from the end of the applicator without losing their energy from the sides in passage. With sufficient degrees of pressure exerted over a surface, the tissues are rendered anemic, and, as first demonstrated by Niels Finsen, will then permit the rays to penetrate more than twice the distance from the surface.

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Infection treated by incandescent light radiations: In the writer's previous reports it has been shown that types of infection not resistant to heat are readily destroyed by reflected

incandescent radiations; notably in erysipelas and in gonorrheal *ophthalmia.*

Erysipelas was first treated by the writer by reflected incandescent radiations in 1910[8] and the results have been verified by numerous other observers since.[9]

Gonorrheal ophthalmia: Probably no greater misfortune has been visited on the infants and sometimes on adults, than pannus with blindness, caused by gonorrheal infection of the conjunctiva, which has proved so intractable to usual methods. So common has been the affliction, that it has become an established routine practice for the accoucheur to administer, or order as a prophylactic, drops of a solution of silver nitrate applied to the eyes of the newborn child.

In the winter of 1919, the writer advised the use of reflected incandescent radiations for a physician who had become infected at the Port of Embarkation where the men were returning from the war. The result was phenomenal. The intense pain in the closed and swollen eye was relieved of the pain within thirty minutes; and, by recurrent, one-hour administrations, the condition had cleared up, leaving the eye normal within one week. Other cases have since been reported[10 11 12] and published which have verified the discovery. It was what would have been expected from the fact that the gonococci are susceptible to light and to heat at relatively low temperatures.

Purulent ophthalmia yields to the same procedure with prompt relief of pain soon after the institution of treatment. With the ultraviolet rays filtered out by the glass bulb, there is no element of danger from reflected incandescent radiations even when exposed with the lids opened, though the effects of heat on bacteria do not require that the bared conjunctiva be exposed.

Eye injuries: In this connection, the treatment of traumatic injuries of the eye by reflected incandescent radiations offers one of the most practical methods of relieving local inflammation; the relief afforded following half an hour's exposure to reflected light over the closed lids, after removal of a foreign body, gives ample assurance of its value in conditions of irritation or inflammation.

Colds, as coryza, are promptly relieved by a few one-hour exposures to reflected incandescent radiations.

Superficial infections, before pus is present, may as a rule be aborted by prolonged applications of these reflected radiations.

Postoperative employment of the same, following operations for evacuation of pus or after all surgical procedures, is a prophylactic against infection, hastens healing and lessens or prevents induration and scarring of the skin.

Increase of local phagocytosis is induced by the hyperemia effected in the treatment of deeper-seated infections, such as otitis media, acute or chronic, cholecystitis and inflamed appendices, which will often be aborted in the acute stage, and experience great relief in all cases. In these cases, the effect undoubtedly depends very largely upon the hyperemia induced through the heat effect and also hastens the recovery of the condition after operation.

Cholecystitis: The relief obtained by diathermy renders this the choice of methods in internal affections, but it is not at hand at the home or in the physician's office in rural districts. However, the electric light will now often be found in the homes in many country towns and can be used to great advantage in these cases.

Treatment of otitis media by incandescent light constitutes one of the most important advances in light-therapy and was reported and published first by Dr. Herbert F. Pitcher; it has been repeatedly referred to by writers on the use of light-therapy.

This is a method, however, that the otologists, as a rule, have entirely ignored. There is probably no greater boon to the sufferers from otitis media than this method, which is of great value as compared with other methods which very often permit the trouble to progress on to mastoiditis. Very few cases, if any, of chronic *purulent otitis media,* properly treated by reflected incandescent radiations, would be followed by mastoiditis if the radiant light and heat were applied over the side of the face, with the ear as a center, over a diameter of four inches; suspending the small lamp in position for one hour, for two or three daily applications, until the discharge ceases, which it will, as a rule, do within three weeks. This will cause the pus formation to cease unless there is a necrotic condition which will, however, also be rendered innocuous.

[8] William Benham Snow. The Treatment of Local Infection by Physical Measures *Medical Record,* March 21, 1923.

[9] James R. Bingham, A Case of Erysipelas Treated by Reflected Radiant Light. *American Journal of Electrotherapeutics and Radiology,* Dec., 1918, p. 320.

[10] M. M. Thompson. A Case of Ophthalmia Neonatorum Cured by Radiant Light, *Ibid,* July, 1919, p. 209.

[11] Louis L. Gannett. A Case of Ophthalmia Neonatorum, *Ibid,* May, 1922.

[12] F. S. Holliday. Gonorrheal Ophthalmia in an Adult, *Ibid,* April 1921, p. 159.

Pneumonia: Dr. Williams, of Toronto, and Dr. Torbett, of Marlin, Texas, have both reported cases relieved by this measure, showing that, when the incandescent light was used over the chest from the beginning of infection, the fatality of the condition could, as a rule, be lessened.

For the relief of painful conditions, as of commencing neuritis, of herpes, and following traumatic injuries, and in acute and subacute mastitis and painful conditions over the abdomen or chest, radiant light and heat gives results that are far more efficacious than poultices or hot water bags, because of its lasting effects, which are operative more deeply in tissues than the local applications, the effects of which are rapidly carried away by convection when applied to the skin.

The treatment of x-ray dermatitis with reflected incandescent rays has been long recognized by those who are familiar with the counter effects of reflected radiant light and heat as arresting early and advanced degrees of x-ray dermatitis. There has not been an uncontrolled serious case or early case of x-ray dermatitis, in the writer's experience of more than twenty years, with the x-ray, owing to the fact that we discovered, more than fifteen years since, that these cases could be easily counteracted by the use of radiant light after the appearance of dermatitis, but not as a prophylactic, lest it interfere with the desired effect of the x-rays. It was in an effort to prevent x-ray dermatitis that the writer discovered that it prevented the x-ray effects. Thus he established its value for the treatment of the condition when it occurred.

The later discovery, that the ultraviolet rays also have a marked effect in relieving the serious conditions that occur on the hands of physicians who have been exposed for years to the x-ray, was highly important as affording a relief to these unfortunates. Both types of radiation are employed in these cases as they are used in the others.

The therapeutics of the ultraviolet rays is a subject too large to consider more fully in the limited scope of this paper. It will be observed that the field of usefulness of these measures, as concerns both, the incandescent and ultraviolet rays, is a very important one —one that can be readily employed by all members of the medical profession. As soon as the teaching body of the profession is brought to fully realize the importance of these valuable measures, they will be adopted for the relief of many conditions that can not be so well controlled by other methods.

Radiant Light and Heat in Orthopedic Conditions

By HENRY W. FRAUENTHAL, New York City
Physicain and Surgeon-in-Chief, Hospital for Joint Diseases, New York

THE use of sunlight as a remedial agent dates back to the earliest times. The ancients had types of solariums upon the roofs where they exposed their nude bodies, ascribing great healing powers to these sun baths. Hippocrates, Celsus, Rhazes, among the ancients, speak highly of the value of sunlight in the treatment of disease.

Modern discoveries in lamps and lights have been devised to furnish in various degrees special portions of the solar spectrum in the treatment of disease. I wish to concern myself merely with the various types of orthopedic conditions and the benefits derived from such physical measures.

We must bear in mind such facts as have been determined by scientific investigation, before entering into their practical application in the treatment of disease.

Our source of light may be the sun's rays, the electrical arc lamp, the incandescent light or the mercury vapor lamp.

Effects of Light

The action of the light is manifold, one being local, chemical, nutritional and upon the nervous mechanism; the other is extended to a general constitutional effect.

We have a local stimulation with dilation of the sweat glands and the creation of an active elimination; when sufficient heat is produced, a general constitutional effect follows.

The local hyperemia increases the number and activity of the leucocytes and in this way destroys bacteria and promotes the elimination of toxins.

When we are called upon to heal acutely inflamed joints, one of our most efficient remedies is the local application of light plus heat by continued exposure of the affected joint for from 15 to 20 minutes or longer, followed by passive motion; the greatest value in hastening repair follows such exposure of joint to light and heat. The pores are open to a much greater extent making the application of

ointment or liniment more useful. Those efficacious in a particular case, should be used, as, blue ointment, in lues.

In the past year, I have observed large numbers of infections of the feet, knees and other joints of the body, being results from infection of "Flu" bacteria or their toxin, and I am of the opinion that, while the heat has increased the blood supply to the affected part, the penetration of the light has had a decided bactericidal effect and has aided in eliminating the infection.

Rickets Due to Light-Deficiency

In a recent article by A. F. Hess and Lester Unger, the value of direct sunlight in the cure of rickets was demonstrated. First, the mercury vapor lamp was used and exposures of the entire body were made every few days, for from three to twenty minutes, at a distance of 120 to 75 cms. The effect, in all cases, was curative, as demonstrated by clinical examination and by the appearance of calcification at the ends of the bones.

Following this success with artificial rays, the effect of sunlight on infantile rickets was investigated. To this end, infants were exposed, under careful supervision, to the sun's rays in increasing degree. After a period of three to four weeks, a similar calcification of the epiphyses was noted, as well as general improvement. This beneficial effect of the sun's rays as well as of the artificial rays was achieved although the diet was in no way altered: some of the babies were receiving dry milk of the same lot, both preceding and during the treatment.

The result leads to the conclusion that the remarkable seasonal incidence of rickets is due to the seasonal variation of sunlight: that many cases of rickets are due to defective hygiene rather than to dietary errors (although diet is also an etiologic fact in this disorder); that sunlight should be used to prevent and to cure infantile rickets; and that, in metabolism studies, both on animals and on man, the influence of sunlight must be noted and taken into account.

Actinic Rays in Tuberculosis

The value of the actinic rays of the sun in tuberculosis was just called to the attention of the profession by Dr. Trudeau, at Saranac. Its use in bone and joint lesions has been demonstrated by Dr. H. Rollier, at Leysin, Switzerland, whose work has shown that, by exposing the body nude to the direct rays of the sun, daily, beginning with short exposures, for which the time is daily increased, the pain is rapidly decreased in the knee, hip and other joints, that repair at the foci of disease is produced and a more rapid cure established and that discharging sinuses are closed up. I have followed this method at the Hospital for Joint Diseases, exposing the patient on the balcony to the direct rays of the sun. In the new hospital, now in course of construction, we shall be able to place every patient on the balcony for direct-light treatment.

Obliterating Endarteritis

The strongest incentive for presenting this paper was in relation to the use of light (sun light or some electric-light substitute) in the treatment of the disease known as Obliterating Endarteritis, or Thrombo-angitis Obliterans. I presented a paper on this subect at the XVI International Medical Congress, held at Budapest, in September, 1909.

This disease, which is confined to Hebrews born in Galicia or the adjacent countries bordering on that country, while isolated cases are found in others, seems to be on the increase. In this country, cases are found different from syphilitic and diabetic gangrene.

The patient complains of pain in the toes, which extends up into the calf muscles. Spasm in the calf muscles and in the quadriceps (intermittent claudication) causes the patient to stop and wait until the spasm passes over.

These pains are increased at night when the patient is in the recumbent position, due to the slowing down of the heart's action and of the circulation.

In the advanced state, the patient only sleeps for short intervals and is compelled to get up and walk in order to stimulate the circulation in his legs.

The patient's gait is such as often to lead the physician to treat him for flat feet.

The feet appear blue, congested and cyanotic, but the pressure of the hand and the manipulation of the feet elicit little pain.

The sensation to heat and cold is diminished.

The feet have a cold perspiration and this clammy, cold feeling gives one the impression of touching a cadaver.

The pulsation of the arteria digitalis dorsalis and plantaris is either decidedly enfeebled or unrecognized.

The patient suffers less in summer than in winter.

These symptoms extend over months and sometimes years.

As the cases progress, unfavorably, there is an atrophy of the toes, a darkening of the skin, and a dry gangrene appears in which the progress of the destruction differs materially in its rate of progress to that found in other

types of gangrene, extending over months. As most anodynes slow down the circulation, they increase rather than relieve the pain.

This disease is never found in the female!

A great deal of scientific investigation has yielded no information: Smoking, ergot in rye bread, increased sugar content in the blood have been accused as causes; but, were this the case, the disease would occur in other nations and be much more common. I have treated many cases in men who have not used tobacco in any form. The only other nation that has the disease are the Japanese.

At the Hospital for Joint Diseases, we have a record of over 1,100 cases:—only 4% show a Wassermann-positive, which is much below the Wassermann-positives found in the other cases treated.

Although heat in various forms has been used for years, and all types of medication as well as glandular extracts, no benefit could be ascribed to them.

Success of Light-Treatment

November, 1907, I treated my first case with the light from an incandescent lamp. (The patients can expose their feet to the direct rays of the sun).

Samuel R., age 39, Russian. Cutter by occupation. No history of syphilis or tuberculosis. Uses alcohol and tobacco moderately. Patient had one brother who was similarly affected and who, at the age of 19 years, had the right leg amputated below the knee; two years later, his left leg was amputated above the knee. Since that time, the brother has remained in good health with no extension of the process.

Patient consulted me at the Hospital, in November, 1907, for a pain in left foot, which extended up the posterior part of the leg to the knee, which had begun two years before. He had not been able to work for six months, nor had he worn a tight shoe on the left foot for six months. For five months, he had not slept in a bed but in a chair and only for a short period at a time.

When he was compelled to walk about to relieve the pain, his foot gave him constant distress which was accompanied by lightning-like radiating pains, from time to time, being more frequent at night.

The foot was cold, blue, and showed a beginning gangrene of the little toe; the arteries could scarcely be felt. He had already been given local heat to the feet by means of hot sand, salt and water, also with various local application of salves and ointments, together with internal medication; but without permanent benefit or the arrest of symptoms. I determined to try the effect of the heat and light as obtained from a 500-candle-power incandescent light. The heat was interrupted every few seconds, but only when he could no longer tolerate it. This was kept up for a period of five minutes on his first visit.

On his return, the next day, he declared that he had slept during the night for a longer time than in months, and without pain. I thought that this was merely mental suggestion. I repeated the treatment daily for five days regularly, after which patient again wore shoes, and he continues to do so.

His pain gradually disappeared, his gangrene in the little toe resolved and a new nail appeared. He has been well and without symptoms for the past six months.

I saw him after a lapse of four weeks, on June 25, 1909, when I called him to my office on the eve of my departure. He declined further treatment as he regarded it a waste of time, since the temperature of his left foot was the same as the right and no pain had been experienced for 8 months.

The patient has received no treatment since 1910 and has had no return of symptoms. He has been shown (with other cases) over a period of 12 years at various medical societies.

Based on the good results in this case, treatment with light has been extended to over a 1,000 cases. We have in many cases given what is termed intensive treatment; that is, exposing the foot and lower leg to a light-bath with almost no heat, for from 12 to 24 hours. In a few days, the pain disappears and, after six or nine months, there occurs a return of pulsation in the artery. How this is accomplished, it is difficult to understand. The fact remains that the pulsation returns.

It would please me to give the history of many of these cases, but space will not permit. By this light-treatment, I have saved more than 65% of my patients from amputation and urge my readers most strongly to try it, should they be consulted in such cases.

In diabetic gangrene, there is great danger of burning the patient, if he is not on the alert. Diabetic patients have no sensation, and are often burnt and blistered on that account.

160 West 59th Street.

Treatment of Urate Calculi By Therapeutic Immunization*

By W. M. CROFTON, University College, Dublin, Ireland.

THE idea suggested by the title of this paper, namely, that it is possible to treat a case of uric-acid calculi by means of therapeutic immunization, must seem at first sight a very far-fetched one, but I hope to show, by the actual success of a case and by theoretical considerations, that such success not only did occur but that it was theoretically probable that it would. It was not only serviceable from the point of view of relieving an almost intolerable condition, but it was also satisfactory from the point of view of confirming my previous statements as to the successful treatment of gout and its allied conditions—conditions in which the formation and the excretion of urates are very much increased. Such conditions were briefly discussed (both, the microbial etiology and the pathological chemistry) before the Medical Section of this Academy, in January, 1917.

A man aged 43, was sent to me by Dr. Cooke. He gave the following history. Eight years before, a rough uric-acid calculus came away and, since then, he had been continuously passing small calculi and had to be constantly treated with scopolamine and morphine to relieve the renal colic. All the symptoms pointed to his right kidney. His teeth had been gradually getting loose for 20 years and all had been removed three years before. Ten years before, his appendix had been removed. He now suffered from symptoms of intestinal indigestion, i. e., he had an abnormal amount of wind in his bowel. He had typical dry, gouty eczema on his head. He gave a history of bilharzia disease in his youth.

He presented, therefore, a typical history—the typical history almost invariably associated with rheumatism including gout, while the bilharzia disease suggested that some lesion had persisted in the right kidney in which the urates were deposited. Cultures from the urine were sterile. Staphylococcus Albus was isolated from a blister made on the dry eczema of his head and B. Coli from his feces in pure culture.

I told him that, since there was no culture from his urine, it was improbable that he had a lesion produced by microbes in his kidney and the only thing possible for me to do in the way of treatment was, to clear up his chronic intestinal infection and his eczema, and that, by this process, I knew from experience, I could get rid of the abnormal amount of urates that he was producing in his body and excreting, and so get rid of the material from which his calculi were made. I hoped that, when he had passed all the calculi which had formed and were then forming, he would be free from any further trouble.

This turned out to be the case. The first dose was 100 million Staphylococcus and 2½ million B. Coli antigen; the doses were steadily increased until he had had 5,000 million Staphylococcus and 500 million B. Coli antigen. Just as he arrived back at the Cape, the patient passed a fairly large fusiform calculus which had been giving him trouble for many months, it having been stuck just about the entrance of the ureter into the bladder; during the next few days, he passed some small pieces of grit.

This was in June, 1920. He has had no further trouble since, no calculi and no trace of pain. His urine which, at the beginning, had been loaded with urates, was now quite normal in appearance and had no lateritious (brick dust) deposit.

Chemistry of Metabolism

It may be interesting to inquire into the mechanism of these results in relation to the etiology of gout. Our knowledge of protein metabolism is very far from being precise, so that I must crave your indulgence for any inaccurate statements that I may make. We may compare a cell, for instance a muscle-cell, to an internal combustion engine. The framework of the cell corresponds to the cylinder and piston while, in the protein material, in the interstices of this framework is produced the material the combustion of which gives the energy for the particular activity of the cell. When the explosive material is detonated in the cell, to produce muscular contraction by the nervous impulse arriving at the nerve end (the plug), it is broken down into CO_2, lactic acid and a protein of unknown constitution called myosin. Myosin and lactic acid probably are, with the aid of oxygen, reconstituted into the unknown explosive material, while the CO_2 is excreted by the circulating fluids through the lungs. For the manufac-

*Read before the Pathological Section, Royal Academy of Medicine in Ireland.

ture of this material, carbohydrates are necessary. This carbohydrate is under normal conditions obtained (a) from the carbohydrate material of food carried to the cell in the form of glucose or (b) produced from the fatty-acid element of diaminized amino-acids, aldehyde being a stage in the process of conversion of these into glucose. (c) In conditions of starvation and in such abnormal conditions as diabetes (but, here for a different purpose) the protein material of the tissues is broken down to produce this energy material.

The framework of the cell, corresponding to the cylinders and the piston, requires under normal conditions a very small nitrogen supply to keep it in repair, just as in an internal combustion engine it is only occasionally that the scored cylinder needs attention, and it obtains this nitrogen from amino-acids from the food. The ordinary break-down product of the wear and tear of the framework of the cell is creatin which, under normal conditions, is converted by enzyme action into creatinin which is further broken down into ammonia which is elaborated into urea. It appears that the nitrogenous breakdown product of the nuclear part of the cell is excreted from it as uric acid, but there is in the tissues a ferment which splits up the uric acid into urea and oxalic acid, so that the major part, under ordinary conditions of the metabolism of the nucleus, may be excreted as urea. Normally, in birds, the whole of the nitrogenous breakdown product of the whole cell is excreted in the form of urate of ammonia. In fever and abnormal muscular contraction, there is a very large increase of wastage of both, the nucleus and the framework, and a very great increase of the production from them of uric acid and evidently a failure in the complete metabolism of this product by the special ferment which ought to deal with it, with the consequent very marked increase of uric acid and urates in the urine. It is said that this special ferment for the breakdown of uric acid does not exist in man and in Dalmatian dogs. It seems to me hardly credible that such unique exceptions can exist.

It is generally considered that amino acids, produced by the intestinal digestion of protein, are carried to the liver and, there, the moiety of them which is unnecessary for the reconstruction of the frame work of the cells is diaminized, the resulting ammonia being built up into urea, which is excreted. It has been found, however, that this process is not confined to the liver—it also occurs in the other tissues, especially in the muscles, where the metabolism of the fatty-acid element has already been described.

Results of Abnormal Intestinal Function

In such diseases as rheumatism and gout, there are abnormal conditions taking place, produced by a chronic intestinal infection, the sources of which are streptococci swallowed from the respiratory passages or the buccal cavity and which lower the resistance of the gastrointestinal tract and allow the bacillus coli to get out of hand and become pathogenic, with the consequent probable increased activities of anaerobic organisms. There is not only an absorption into the portal circulation of the microbes themselves and their poisons, but also absorption of the abnormal breakdown products of proteins, and possibly also of carbohydrate and fats, with almost certain interference with these normal ferment oxidation processes, not only in the liver cells where they are specially concentrated but also in the tissues, for instance in the muscles, so that the condition of interference with the ordinary metabolism of the cells (such as occur in fever and overexertion) are present perpetually; diaminization probably does not take place normally and the tissues are flooded with too large an amount of amino acids and also with too great an amount of purins derived from food. In consequence, an abnormal amount of purins is produced not only by imperfect metabolism of the breakdown of the cell but also by the imperfect metabolism of those derived from the food.

What About Uric-Acid Deposits?

What is the cause of the deposit of uric acid in particular places, for instance in gout, about the joints and tendon sheaths and in the above-mentioned case at the site of the lesion in the kidney, with the consequent production of stone? There are two isomeric forms of urates, both monosodium urates, one soluble and the other much less soluble. The soluble salt can be converted into the insoluble, and it appears that the conditions necessary for this change occur in areas where the lesion is produced by microbes or possibly by other changes, as in the case described, the urate being probably precipitated from colloid solution. I know by experience that, if ordinary cases of gout are treated with antigens prepared from their gastrointestinal microorganisms, they react at the site of these lesions, indicating microbial infection and that, by immunization, these lesions can be cleared up and the whole condition cured.

To me, therefore, gout is a rheumatic condition complicated by the formation of abnor-

mal amounts of uric acid, with the conversion of the soluble urates into insoluble at the site of rheumatic inflammation.

Whether my theoretical interpretation of the process is correct or not, there can be no question whatever that, by immunization against microorganisms in the way I have described, the abnormal production of uric acid can be stopped and the inflammation of the joints and tendons and so forth cleared up. So confident had I become of this that I was able to give the patient, whose case I have described, a pretty confident assurance that I could get rid of the material which was making the stones, and my prognosis in the case (as you see) was entirely justified.

Finally, we must not forget the possibility that derangements of certain internal secretions may form part of a vicious circle. Pigs suffer from guanin gout, and it is interesting in this connection to remember the extraordinary derangements of protein metabolism, especially in the muscles, after removal of the parathyroids and in such conditions as tetany when they are underacting where there is a very marked increase of guanidin in the body.

Cancer of the Breast

A Study of 250 Cases in Private Practice

By L. DUNCAN BULKLEY, New York City

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[*Continued from May issue, p. 322.*]

Case 7.—Mrs. L. H., aged 36, was seen in consultation, September 20, 1918. For 14 months, there had been a tumor in the left breast, first the size of a marble, which had increased gradually, and, for the previous six weeks she had had darting pain, following a blow on the breast; this was more pronounced during menstruation. She had been receiving electrical treatments three times a week for nine months, also had been drinking a glass of radium water three times daily, and had been on vegetable diet.

When first seen, the left breast was greatly enlarged, with a hard mass 2 by 3 inches in diameter, with some adherent, reddened skin, and some axillary adenopathy. Several physicians and surgeons declared the case to be inoperable. Under careful diet and medication, she seemed to do well for a while. The breast was less swollen and red, and the patient gained a little flesh, to even more than her normal weight. But, on October 22, the supraclavicular glands were a little enlarged and the axillary glands possibly a little larger. As she and her husband were restless and wanted an operation, I consented to have Dr. Strobel do his "chemical removal," which went off well, except that the axillary glands were hard to reach, on November 1. That area was not skin-grafted until December 13. During all this time, the dietetic and medicinal measures were neglected. The grafts on the breast and in the axilla did not take very well, and, by December 26, there still was some rawness, and a swelling of the left arm.

After this, she picked up and, on March 1, I recorded that she felt very well; pulse 80 and good; regaining some flesh, almost her former weight, and went to her country home, being under my treatment. She then went West for several weeks, probably neglecting treatment, and several cutaneous nodules developed near the original site and on the back, with some supraclavicular adenopathy. For this, she received some radium treatment, with needles, by Dr. Janeway, and had repeated x-ray applications. Later, right axillary adenopathy developed. She then returned to her country home and I lost sight of her, hearing later that she died July 12, 1919. In this case, the medicinal treatment, which was followed out irregularly, failed to check the lymphatic permeation, and the extension of the latter put an end to her life.

The four other fatal primary cases which are here recorded (making eleven in all) were seen in consultation or only once.

Case 8.—Mrs. S. R., aged 68, seen in consultation, May 20, 1919, had had a lump in the right axilla for 2 years, remaining much the same till March, 1919, when she noticed a lump in the breast, which had since ulcerated. When seen, the right breast was the size of a half melon and very hard, with numerous ulcerated areas; she had always been very constipated, with no movement for a week at a time. She was advised thorough dietetic and medicinal treatment, which may not have been carried out. Her physician wrote me, that she died about November 30th.

Case 9.—Mrs. W. A. C., aged 52, seen February 9, 1922. For two years, had lost flesh, looking grayish, with obstinate constipation

and indigestion. The uterus was then found to be enlarged and bound down, and at the same time both breasts were affected, while axillary and supraclavicular adenopathy appeared. Then, two years ago, having uterine bleeding, she saw Dr. Kelly, in Baltimore, who found extensive uterine disease and, curetting the cervical canal, diagnosticated adenocarcinoma, giving her not six months to live. Several others gave the same diagnosis and prognosis.

She then had radium in the uterus for 24 hours; the uterus was reported softer and movable, and the bleeding stopped; she also had x-rays, 50 minutes each week, for a while.

Later, there was swelling of the abdomen and legs, and a leading New York surgeon opened the abdomen, removing about a gallon of fluid. He found all the peritoneum a mass of matted glands. I saw her but the once, and she died, April 26, 1922.

Case 10.—Mrs. S. S., aged 43, came to me, a single time, December 29, 1921, with a mass 3 by 4 inches in the right breast, hard and adherent to the skin, with nipple much retracted. She was greatly constipated, depending on medicine, and with scanty and red urine, passed at night. She was given appropriate dietetic and medicinal treatment, but I never saw her again. I do not know if she carried out the treatment, and on inquiry I learned that she was soon operated on in a hospital, and died on May 30th, 1922, after weeks of great pain.

Case 11.—Mrs. D. L., aged 44, came to me December 22, 1920, with a curious history. She had one child, a son, 19 years of age whom she had nursed 10 months normally, no abscess. She had always been healthy and active until about a year previous to her visit, when she became weak and heavy, with no ambition. Seeing her physician, he advised that the teeth be inspected by x-rays, and as a result she had all the upper teeth and lower back teeth extracted, quite interfering with perfect mastication, which is such an important element in impending cancer.

Four or five months previous to her visit, she had pain in the left breast, which was relieved by witch hazel. Shortly after, she noticed a lump in the breast, and an operation was urged, but rejected. The bowels were always sluggish, requiring laxatives several times a week; the urine was urgent in the day time and passed 2 to 4 times at night, and she had rheumatism; the menses were still quite regular, lasting 3 days, but recently they had appeared twice in a month.

When first seen, the left breast, especially the outer lobe, was involved in a great, hard mass, making it double the size of the other. It was painful, though not on gentle handling. On the lower aspect, there were two ulcerated cutaneous nodules, and many small red points on the side: the axillary glands were greatly enlarged, low down. She was placed upon appropriate dietary and medicinal treatment, and, on December 29, it was recorded that there was material improvement in the feeling of the breast, which was not so tense; and the cutaneous nodules were less red, and smaller. She had slept much better, taking none of a former sleeping medicine; the urine was not so urgent, and was not passed until 5 a. m., whereas formerly it had been 2 to 4 times at night. I did not see her again, but heard by telephone that she had gone to a hospital for a surgical operation. Later, upon inquiry, I learned from her husband that she died November 19, 1921, eleven months after I first saw her, only once. I had expected that the disease would yield, as others had done, to careful and prolonged medicinal treatment.

Fatal Postoperative Cases

It is not necessary to go into detail regarding the twenty-three deaths which diligent inquiry and large correspondence have discovered in the 75 postoperative cases, for they all have about the same sad story; but some of them were of peculiar interest, on account of the good fight which was put up. A few illustrative cases may suffice. There were undoubtedly many more deaths among the desperate cases which I saw in consultation, but my repeated letters have failed to elicit any more reports.

Case 12.—Mrs. B. E., aged 49, weighing 159 pounds, mother of 3 children, aged 21, 20, 13, was sent to me on January 25, 1917, by a leading surgeon of this city, four months after he had performed a very perfect surgical operation, clearing out the axilla, on September 27, 1916. The lump in the right breast, with axillary adenopathy, was first noticed five or six weeks before the operation. The breast tumor (which was removed) was the size of a large walnut, and was reported microscopically to be an adenocarcinoma. She had long been persistently constipated, depending on cathartics all the time, the digestion was poor, with continued flatulence, and she had insomnia to 2 or 3 a. m.; the menses had ceased 5 years ago.

When first seen, there was a good scar, from a complete operation, including the axilla,

but there were still some small, enlarged glands; she complained of pain and aching, and the arm, which was enlarged, had some tender areas. She was placed on rigid diet and medication, but a month later it was recorded that there were cutaneous nodules around the scar, with an area of redness near by, such as is often seen in recurrent cases. Within two months, all these and the axillary adenopathy had increased. The urinary secretion was found, from the first, to be very deficient in the solids called for by the body weight, only one-quarter of the normal amount being eliminated, and the urea was very low. This was, more or less, the condition for some months, but by very active treatment all this was raised to normal.

She was a very intelligent and faithful lady, coming weekly from a neighboring town and, for some time, seemed to do well under varied treatment to meet existing conditions, while maintaining the proper dietetic, hygienic, and medicinal measures. In spite of all, however, cutaneous nodules kept appearing (although very slowly), as also some adenopathy, which painting with 50-percent ichthyol and x-ray treatments seemed to control. On October 25, it was recorded that she felt very well, had a great appetite (for the "green-card diet") and "sleeps wonderfully with no nocturnal urination," with which she had been formerly troubled. She never took morphine or any opiate. On November 28, there was still "very great improvement," the cutaneous nodules had gone, also certain areas of diffuse redness which had appeared, and the enlarged glands in the axilla were less, being hardly perceptible" on January 8, 1918.

But, the fatal lymphatic permeation persisted and, by April 16, 1918, a new enlarged gland was found low, behind the axilla; also, a bony infiltration appeared near the sternal end of the incision, associated with considerable pain in the right shoulder and arm. The patient had kept her weight pretty well up to this time; but now she began to lose. Under change of treatment, she picked up, the urine improved materially, the urea rising up to normal, and it seemed as if she might pull through. Then, slowly, the supraclavicular nodes became involved, and those in the neck, and back, for which radium tubes were inserted by Dr. Janeway, but without appreciable benefit and causing much pain. By November 15, signs of intrathoracic invasion were manifest, with shortness of breath, cough, and distress, and the chest was tapped several times, large amounts of fluid being removed, up to 72 ounces. She finally passed away on January 19, 1919, two years after her visit, and two years and four months after the operation.

While the ultimate result was not such as was hoped for or even expected by the surgeon who performed the relatively early and complete operation, the case illustrates well the distressing features of the disease, and the practical impossibility of surgery reaching all the invaded lymphatics, and the spread of the disease by the traumatism to lymphatics and blood vessels during the operation. From long experience, it seems that most careful dietetic, hygienic, and medicinal measures might have removed the first small tumor, as in the many successful cases to be mentioned later. It was, however, a comfort to have the patient's husband, an unusually intelligent gentleman, write to me, when announcing her death, "I am fully convinced that you have added considerable to her life in comfort and length of days."

Case 13.—Mrs. G. C., aged 46, with 3 children (23, 22, and 17 years old), noticed a small lump in the left breast, three years before first seen, October 5, 1918. This was removed surgically in February, 1917, the wound not healing for ten months. Four months before she came, axillary adenopathy developed, and a small hard mass formed in the middle of the operative scar. She had always been constipated, depending on medicine, and the saliva was found to be acid. The menses were still regular and normal.

When first seen, there was a flat, hard mass, 1¼ inch by 1 inch, with darting pain in it, with two almond-size glands in the axilla and some indefinite nodes in the pectoral fold. One month after her being placed on full dietary and medicinal treatment, it was recorded that she "felt much better", and the axillary nodes were smaller and movable. On December 21, it was recorded that she "feels better all the time", the mass which was in the middle of the scar was gone, the axillary nodes were smaller and she had no pain. On February 13, 1919, she still felt very well, except for some neuralgic pain in left shoulder to elbow, and the axillary gland had enlarged some; the saliva was still acid.

After this, she failed some and, on June 11, she complained of great pain in the right side of the sternum up into the shoulder and neck, which was relieved considerably by aspirin and x-ray. On October 30, she "felt fine this week," the sternal lump was smaller and softer, as was also the axillary gland. She had

several profuse menstrual periods; then the menopause occurred and she began to run down. The sternal mass ulcerated and gave distress, the axillary nodes increased in size, and she failed in strength. Before this, she had been up and very active on account of a daughter's illness. Soon, she could not come to the office from her home in New Jersey, and a friend reported often that she was steadily failing. On September 10, I called on her and found that she had considerable jaundice, but there was neither enlargement of the liver nor did it show hard edges. There was still considerable ulceration on the chest. I afterwards learned that she had morphine hypodermically for the last three weeks of her life, which ended October 24, 1920, two years after I first saw her. While the disease was fatal in this instance, life was undoubtedly prolonged long after the time when it would be expected to end, while the comfort and activity of the patient during those two years was most gratifying.

Case 14.—Miss S. M., aged 37, fell in May, 1916, striking the right breast. Three months later, she noticed a lump, the size of a pea, which increased, with the development of enlarged axillary and supraclavicular glands; there were attacks of shooting pains. On October 1, 1917, there was a very complete operation performed, the mass the size of a large English walnut, including the axillary and supraclavicular glands being removed.

When first seen, January 28, 1918, the operative area was still denuded over a large surface, the grafts not having taken; this was being dressed surgically every other day, which dressing was continued by her surgeon for two weeks, with very great discomfort. Being placed on a complete medicinal treatment, and the surface covered with a calamine and zinc ointment, spread on thin absorbent cotton, changed twice daily, the relief experienced was immense, and within three weeks it was recorded that the ulceration had completely healed.

But, some small cutaneous nodules had appeared, around, which subsided under the continuous application of thiol, and occasional x-rays. However, the supraclavicular glands again developed, as also an axillary gland, though, on June 26, it was recorded that the enlarged glands had gone down.

The patient had been very nervous since the operation, and various remedies had been employed with success, so that, in spite of a very hot summer, it was recorded, on August 28, that she looked and felt very well. But, on September 12, the left breast was found involved, with an irregular, nodular mass 1 by 2 inches in diameter, with pain also in the right breast and side, and some cutaneous nodules around. By September 6, the left breast was more involved, with axillary adenopathy. Iodide of lead in diachylon ointment was kept over the left breast, on absorbent cotton, and on October 10, it was much softer. I then lost sight of the patient for a while. In response to a letter, she wrote, on December 22, that she had been much better and so busy that she kept putting off the appointment. She promised to call shortly, adding that she was sure that I would be pleased to see how much better she looked, having gained quite a few pounds.

But she did not call, neglected treatment, submitted to some proteal injections, and took some quack remedies. On February 22, 1919, I was asked to see her at her home. I found that she had been in bed a month, ever since she had wakened at midnight with a spasm in the right leg, for which she had had morphine hypodermically. There had been much suffering since; the sole was very painful to the touch. The cancer had made bad progress. The *left* side showed multiple cutaneous nodules. The left breast was large and solid, with cutaneous nodules and much erythematous redness over and around it in patches. The right and left axillary nodes were large, and also the right supraclavicular. She died shortly thereafter without my seeing her again.

While the ending of this case was unfortunate, the patient had been comparatively well for nearly 12 months, carrying on a very active business of her own, as a hair dresser, and it was only when she neglected treatment and tried other measures that the fatal lymphatic permeation carried her off, in two short months.

Case 15.—Mrs. F. L. E., aged 62, first seen October 20, 1917. Two years previously, in June, a small lump, the size of a walnut, was noticed in the left breast, close to the nipple, which was drawn in within a week. The breast was amputated almost immediately, early in June, 1915, with a thorough, axillary operation. The microscopical diagnosis was, carcinoma. In July, 1917, a lump appeared over the left clavicle, the size of a bean, which was removed the next day, and was also shown to be carcinoma, under the microscope. There was no trouble until October 1st, when sharp pains were felt in the left shoulder and in the left clavicular region

from the joint to center. The patient had had rheumatism off and on for years, and it had been disregarded. Recently, two glands were discovered to be enlarged, above the clavicle, and I was consulted with a hope of averting serious recurrence.

On examination, a very good scar from the operation was found, extending into the axilla and along the arm; also the scar from the removal of the supraaxillary glands, the previous July. There were found two enlarged glands above the clavicle and a small one in the left axilla. The patient had always been greatly constipated, depending on medicine; had bad digestion, with gas; the sleep had been bad for years, with long periods of wakefulness and disturbed by frequent urination; the saliva was very acid. She was said to have diabetes; but no sugar was discovered, after several analyses. The urine (sp. grav. 1018 to 1020) was strongly acid, and scanty, averaging 25 to 28 ounces, by measure, daily. The patient was a large woman.

Being placed on complete treatment, she felt better in two weeks, with less pain in the left arm. However, there was a shortness of breath on ascending stairs, and a mitral murmur was discovered. A later analysis revealed almost 3 percent of sugar in the urine, and she left for the Pacific Coast a month after. I learned that she died of diabetes, fostered possibly by the carbonaceous diet given for the cancer, in August, 1920, nearly three years after I first saw her.

It would be useless to narrate the histories of more patients, showing the further results in the 75 postoperative cases, but a brief mention may be made of the duration of life after operation in the cases which have passed under my observation, where the date of the final result could be ascertained. Of the 75 patients, 6 died within one year, 4 within 18 months, 1 within 2 years, 3 within 3 years, and 4 at unknown times; of the 12 thought to be living, there are, under 1 year 3; over 1 year 1; 2 years 3; over 3 years 3. Finally 45 were lost sight of.

[*To be concluded.*]

Practical Experiences With Non-Specific Protein

By O. AHLSWEDE, London and Hamburg

IT IS common knowledge that protein substances, introduced into the system parentally (intramuscularly or intravenously), provoke general or local reactions. The species of protein introduced is of secondary importance, a certain therapeutical success being attained more or less with all proteins. Injected into a muscle, a vein, and acting in the manner of a "foreign body", the proteins stimulate the defensive reaction of the body.

This becomes very distinctly clinically visible in most dermatoses. Thus, following an intramusclar injection e. g. of a sterile and toxin-free milk albumin solution, a skin lesion, such as a sycosis barbæ or crural eczema, will develop increased reddening and swelling; in fact, it will show symptoms of a reactive inflammation. In the case of an eczema, e. g., the patient will commonly note, some 6 to 8 hours after the injection, a "ticklish" feeling, a sensation which he did not feel before the injection and which indicates that some reaction is going on.

As the theory of non-specific treatment is not to be discussed here, it may suffice to add that the principle involved is, to stimulate the defensive reaction of the system to its maximum against invasion, no matter whether a streptococcus, a trichophyton or a gonococcus, etc., is the intruder. As, furthermore, the practical therapeutical success attained proved as good as and, in many cases, better than those attained by specific agents (streptococcus vaccines, gonococcal, trichophyton vaccines, etc.), the principle must concern a very large number of diseases, in fact an almost unlimited line of indications. Thus, Schmidt, Kraus, Saxl reported successful treatment of progressive paralysis, neoplasms and joint disorders with toxin-free milk-albumin injections; Müller and others saw a beneficial influence in a large number of dermatoses, in gonorrheal complications, etc.

The growing importance of this method of treatment will justify drawing attention in the following to some practical experiences in non-specific foreign-protein treatment with a 5-percent sterilized casein solution. The first therapeutical success concerned the treatment of buboes. Of 19 cases treated by intravenous injections of casein (intramuscular injection was chosen in cases with too strong reaction) a rapid absorption of the developing abscesses was attained; thus rendering surgical

incision unnecessary and also considerably shortening the duration of treatment. The two refractory cases were too advanced to prevent perforation. The injections were made every other day. Starting with 1 Cc. of a 5-percent casein solution, this was increased by another Cc. on every following injection till 5 Cc. were injected. Slight rises in temperature and occasional slight headaches were the only disturbances seen. In all cases, as early as after the first two injections, the painfulness and tension in the buboes were considerably lessened. In advanced buboes near perforation, 2 to 3 injections allayed the inflammatory symptoms. The skin sinks and, after another 2 to 3 injections on an average, regains its normal character. The inguinal glands also become normally palpable. In less advanced buboes, the healing process was much quicker. Nor were any relapses noted.

Similar success was attained in 11 cases of epididymitis and prostatitis gonorrhoica. In epididymitis, the successful result was distinctly visible. Following 2 to 3 injections only, of casein, in 7 cases, the swelling and painfulness of the inflamed parts were diminished. In prostatitis gonorrhoica (11 cases), the success was doubtful. Though pressure and swelling were improved, leucocytes could always be found in the discharge. Here, the casein injections appear to have neither more nor less influence than the specific gonococcal vaccines themselves. The same holds true with regard to the treatment of furunculosis and carbuncles. In 30 cases treated by casein injections (compared with 25 cases submitted to topical measures only), the softening and elimination of necrotic tissue was quicker than after mere local treatment.

Similar benefit was derived in 12 cases of chronic relapsing eczemas. These responded to casein by a strong topical reaction: inflammation and exudation.

It seems very probable that the introduction of protein-substances increases the lymph current besides affecting an accumulation of leucocytes. Of the 12 cases mentioned, 8 were cured exclusively by casein injections while the other 4, having proved refractory to topical treatment alone, were cured by a combination of both methods.

Of acne vulgaris, several cases responded exceptionally well. The method of treatment was the same as given. While the first injection caused a distinct local reaction in the papular eruptions, two to four subsequent injections effected a marked regression of the nodules. Of 9 cases, 4 were cured exclusively with casein injections. In the other cases, a combination with topical measures proved necessary. In acne rosacea, little success was obtained. The pronounced hyperemia and newformation of vessels resisted the treatment. Four patients with genital and peritoneal tuberculosis responded well. The temperature was lowered and the general condition improved after three injections. However, further observations will be necessary before a definite opinion can be formed.

How to Explain the Results

As to the theory of non-specific protein treatment, a definite explanation is still lacking. An effect due to increased phagocytosis, which was first thought of, is out of question, as the therapeutic success is independent of the number of leucocytes. Weichardt speaks of an "activation of the protoplasm" *(Plasmaaktivierung)* meaning, a stimulation of the cellplasm. This increased activity of the body cells can be effected by albuminous substances or their decomposition products following parenteral (intramuscular or intravenous) injection into the system. In fact, in animal experiments, it has been possible to trace the formation of antibodies, by means of the complement reaction. The strength of this reaction was in proportion to the number of casein injections made.

Summarizing, it appears advisable, from practical experiences with non-specific protein treatment, to apply this method in all those cases in which specific vaccines must be thought of; furthermore, in the almost unlimited field of those disorders where the system requires a support in its defensive action. If careful dosage is observed, disturbances, such as anaphylactic symptoms, can be practically eliminated while a certain therapeutic benefit is always certain to follow.

"Standardization"

By GEORGE BLYTHE MORRIS, Goldsboro, North Carolina

IN a certain training camp, during the late war, a little episode occurred, news of which never reached even company headquarters. It seems that a cadet-sergeant doctor went into a barracks and spoke rather reprovingly to a cadet-private doctor, whereupon the cadet-private doctor turned and pasted the day-lights out of the cadet-sergeant doctor. Whether the story was exaggerated or not, we do not know. We think that it probably was. However, something took place between the two to give the story some foundation, because, at mess formation, the cadet-top-sergeant doctor admonished the company of cadet-doctors, saying: "You must not take offense at these little things; they are only a part of the polishing process."

At this juncture, a pot-bellied cadet-private doctor, who wore a mustache and not a misplaced eyebrow, whispered from under the left end of this mustache to the cadet-private doctor next to him, with whom we are intimately acquainted, "Who the hell are we supposed to be like when we git polished—like him?" At this remark, the doctor-private with whom we are intimately acquainted giggled outright in ranks and was glared at through the pince-nez of the top-sergeant doctor for being very naughty and for not taking the top-sergeant doctor and himself seriously as soldiers.

Of course, we do not uphold insubordination in the U. S. Army. Some of us got nowhere "much"—not, because we were insubordinate, as we might have seemed to the casual observer, but because some of us had in us too much innate Americanism to kiss the pontifical toe for a mess of pottage. [*Metaphors mixed?*—ED.] And if that be treason, eat it.

Of course, we expect nothing better than, some day, to be "bumped off" in the cause of true American Democracy, and we think that we already know by whom. (And, if *that* be treason, eat it.) But, of course, too, we would rather have been where we were during that period (And we are ready to go again should congress ever find it necessary to call upon us) than to have been at home with certain brother practitioners within the draft age whose rejection enabled them to mop up, perhaps, about thirty thousand more pieces of silver than one, named Iscariot, received for causing all the trouble on earth, World's War included. It was not our privilege to augment the crimson of the poppy-fields, neither did we stay at home to capitalize "The Flu"; which could have been our choice. However, we seem to drift from our subject.

But, About Standardization

I relate the foregoing pleasant little incidents—including such a one as The World's War, as illustrative of what is to follow.

Rarely can one pick up a medical journal, these days, without coming upon some article by some author who has arrogated to himself the status of "The Great", in which article said self-constituted dean writes on "Standardization" or "Reform", meaning that he has some fault to find with those of his brethren who are not band-wagon riders among what he would designate as the rank and file.

What we wish to know is "Who the h . . . are we supposed to be like when we shall have become standardized—like him?"

We know that this paragraph is rank and blasphemous heresy. So was The Boston Tea-Party, and so was also the "Hill that was raised at Bunker-hell".

Out of heresy was born America, and, when the "true fabric" gets "fed-up" on the oligarchic plagiarisms of self-constituted authority, out of heresy will be born an American Medical Profession. Heresy, the soul-democratizing influence! The very matrix of progress! The abortionist of tyranny! The iconoclast of arrogance! The voice of a free people 'gainst self-knighted peerage! The same sort of stuff that made the lowly Nazarene (whether we believe in this divinity or not) stand up in the very teeth of the Roman Empire and that forced the lonely monk at Worms to stand up in persistent opposition to the Roman Papacy.

I see upon my desk brochures from various publishing houses. I see also various brochures advertising the use of various scientific preparations, appliances and instruments; and, in my book-case, I see a volume which is a classic—a rule and guide as a medical-school textbook.

We of the "rank and file" are not qualified to grasp the literature advertised to us? The publishers who advertise it to us should depend upon those who would have us "standardized" for the volume of business that they (the publishers) do?

Delivered before the Wayne County (North Carolina) Medical Society, in January, 1923.

The scientific preparations, appliances and instruments, we are not qualified to employ with all our diplomas, regular licenses and and experience? Only those highly specialized in their several and respective uses should be permitted to employ them, and their manufacturers should depend upon only "the standardized" for the volume of business that they (the manufacturers) do?

The classical textbook written by a world authority, we must swear by. In it, a percentage mortality is figured out as infallibly as any actuary ever calculated anything, and I know doctors in certain rural districts, who, before the Volstead Act, would have been tarred and feathered, if not lynched, had their proportionate mortality even approached that laid down in this book for certain diseases.

Do those who would have us standardized have any influence with the various state committees on medical legislation, with whom, at society meetings, they seem to be on such intimate terms? Do they think, for a moment, that, had "the rank and file" any influence with these committees, coming generations would be born assisted by the infected (sometimes, even infested) talons of negro midwives, amid such aseptic environment as urine-soaked "crazy-quilts" and vulvæ besmeared with feces? Do they regard the least qualified of the "rank and file" below the plane of these hags?

Should we, who have not been specially autocratized and specially guilded, dare to cut a furuncle, when the collaborating epidemiologist of my state writes me, in this year one thousand nine hundred and twenty-two, and in this era of scientific thought, that "all that is necessary for a person to become a midwife is, to register with the State Board of Health?"

Fancy, for a moment, this absurdity: That they (the standardizers, themselves) and we (of "the rank and file") could come up to the requirements laid down by them—all of us as perfect as they already believe themselves to be. Upon what would these standardizers feed? Upon reference cases from the rank and file? Upon prostration at their feet of those admittedly their equals?

The writer recalls a pen-and-ink sketch of a long time ago. It was by Gibson. A newly-rich man had employed two rival tenors of equal renown to sing at a musicale given in his drawing-room. Indelibly impressed upon my memory is the look of devotion that each tenor bestowed upon the other.

We see similar illustrations almost every day in ordinary life. Two clergymen, for example, of equal eloquence, but of different denominations, wrangling—and, in the name of Christ.

Is it so that, at one time, it was said by textbooks and professors that the extirpation of a certain ductless glandular structure would be fatal? It strikes us that this was once so, though we do not assert it as a surety.

Is it so that two master-major-surgeons were successfully extirpating this glandular structure in the face of orthodox teachings, while scarcely enjoying the ethical regard of the standardizers, by whom they were spoken of as mechanics in human flesh? This is merely a question—not an assertion.

Is it also true that, when they noted that their audiences were leaving the classic centers and "westward wending their way", these standardizers did not hasten to shower recognition and honorary hoods upon these two lowly mechanics? This, neither, is an assertion.

Suppose that Ambrose Paré, Harvey, Hunter, Jenner, Ephraim McDowell, Crawford Long, Lister had bowed before the mandates of orthodox standardization. Lorenz, von Ruck, Harrower, haven't bowed yet, either, and we do not think that they will. [von Ruck has passed away. He never did kowtow to anybody.—Ed.]

Suppose that civilian influenza had been treated with the routine capsule of the Army Armamentarium. Who would have been left to feed those of the Army who escaped the treatment? When a captain, we were bawled out by a major for having something to say about the Army Armamentarium. We were guilty of heresy and, from the way he chided, guilty with a large helping of schism "thrown in". But the undertakers did not cease to ply their uncanny trade.

The treatment was "Standardized".

Theory or Practice?

Should the weather-beaten pioneer, who clatters onward in his tattered Ford and who can smell his pathology the moment he enters the room, be standardized by being compelled to arrive at the same conclusion in two weeks' time, with retort, buret, test-tube and microscope; or by being compelled to send for a standardized hematologist to make a leucocyte count that it may be determined whether or not his patient should take a long and arduous journey—and perhaps a dangerous one—to some center of standardization, that he or she might have that appendix, which is on the eve

of bursting, or those pus-tubes, scientifically removed instead of going in and getting them in his own little local hospital?

Once an old doctor told us that eyes were made before microscopes; ears before stethoscopes; fingers before pleximeters; and brains before laboratories. After twelve and a half years of practice, we are just beginning to realize that he told us the truth.

Should the old patriarch, who still drives the horse, be standardized or chloroformed because he is past sixty and because, out of some two thousand obstetric cases, which he designates "Midwifery", he has never lost a mother—eclampsia (ante and postpartum) included, because he *should* have lost a certain percent "according to Hoyle"?

We admit that the reticence and the modesty of the socalled "rank and file" are largely responsible for the state of political conditions in the medical profession. We admit an unforgivable lethargy on the part of the real "warp and woof" of the profession and a disposition to "let George do it". But, can George honestly say that it is his sincere desire that remote and obscure talents be exhumed, rather than a fear on "George's" part that some voice might come out of Nazareth in spite of him and appropriate some of the thunder over which he thinks the Doctors (already) in the temple hold exclusive and inalienable proprietorship? Hence this hue and cry intended for nothing but to publish the contrast between the standardized and the unstandardized.

Were prohibition a success, the prohibitionist would be out of a job. Should the rank and file come up to the "standard", the standardizer would be out of a job. It is not our opinion that either desires that his goal be reached.

The Old Family Doctor

I can picture in my fancy an old doctor. He is a composite sort of an old man. His features seem to change as I behold him in my mind's eye—yet, they do not seem vague. Also does his figure seem to change. Now he is heavy, tall and athletic; his face is florid—almost plethoric. His bald head is fringed around with snow-white fleece. He is clad in an old crash suit which looks like it had first been wadded up, then flung upon him. His voice is like thunder when he bawls at the swain who has come to him to ask what must be done about the ruined lass; but, to the lass, it has the tenderness and the sonorous sweetness of a benediction pronounced by an infirm bishop. Everyone says he drinks.

When the two go out, I hear a sound in his back-office like the rushing of many waters. Intruding, I find him where I never had believed he had been—upon his knees, his face hidden against the old leather couch sobbing to whatever or whomever he believed in "up there", about the frailties of two of his young sheep whom he had helped bring here and for whose welfare he feels responsible all the days of his life.

Again, and his features are aquiline. A goodly bunch of snow-white fleece covers his head—or perhaps it is iron-gray. He wears a well-trimmed mustache and imperial—or maybe side-whiskers. He is clad in a black frock-coat this time and is raw-boned, but dapper in appearance. Now he is a little stooped; now straight as an arrow. His steel-gray eyes are as stern as a cavalry-sergeant's, but they twinkle somewhat when he storms at the imprudent little mother, and he has some trouble in getting his hand, which she clings to, away from her without wounding her feelings, as she smiles wanly and worshipfully up at him.

His features, figure and dress change rapidly in the kaleidoscope of my memory, yet there is ever an indescribable sameness about him.

When he sits down to storm at the family, the superannuated setter leaves his cozy spot on the rug before the fire and ambles up to him, resting his chin upon the thunderer's knee. The old cat begins to pace back and forth rubbing herself against his trouser-leg while giving vent to a noise not unlike that rendered by a hard-drawing pipe in the stem of which "goo" has accumulated; and, while he sits, some "little party" in the family, wise to the fact that the thunder is only "stage-thunder", climbs into his lap and, with chubby arms around the leathery old neck, lays his ringlets against the stern face (which has never been able to buffalo the "little party") and falls asleep amid the storm. When this has subsided, the little party is tenderly laid upon the bed with the little mother and the other little pink parcel and, with a volley of expletives directed at the frailties of human nature in general, the fountainhead of the tempest dashes out to untie the old horse, who (we cannot designate his horse with the pronoun "which") slobbers affectionately upon the shoulder and sleeve of the frock-coat.

The old shepherd who knows his sheep and is known of his, though as profane as a seacook's parrot (and as meaninglessly profane) is, withal the most Christ-like man who lives

in the reaches of our memory.

He believed, in his time, that "respectability" was a "barrier to the gonococcus". He knew that it was.

He did not believe that the world was "more nearly syphilized than civilized."

He had an ideal in womanhood; he revered that most consecrated calling on earth and would not countenance its being made traffic or gossip of—the calling, we mean, of the trained nurse—of the sisterhood of the father-confessors to the clergy.

He does not practice any more. Yet, he still lives to some of us.

Can You Standardize Personality

Would someone have him "standardized"? Would someone make of him merely a mechanic on human flesh, destroying in him the personal equation which is part and parcel of his patient? Should his fingers be sterilized of that greatest of therapeutic agents, the human touch? Is any miracle that can be wrought with drug or scalpel comparable to it in healing influence? Would anyone choose to take him out of his provincial niche which he alone can fill and put in his place a standardized "morgue-rat" or an artless laboratory "squint-hound"? Would you have fellowship given him in some exclusive guild, so that the young theorist graduate, whom he is training to perpetuate his art, fear to approach him?

It does not stand to reason that The Great Physician chose to come as a carpenter's apprentice that he might act as an autocratic obstructionist to his brethren under the guise of standardization. Nor did the miracles he is said to have wrought constitute the most marvelous side of his character. It was the human touch which he possessed that did.

The writer is not an old man in the profession and not yet middle-aged in years. Therefore, be advised that he does not believe in useless empiricism to the exclusion of modern things. Nor does he believe in modern fol-de-rol and uncertain experimentation to the exclusion of useful primitive things.

When we graduate, we are materialists, strictly. After we have practiced long enough to forget our elementary zoology, a great light downs upon us; we realize that there are more things in heaven and earth than are dreamt of in our philosophy, wonderful as we may have been when we were permitted to begin practice.

Don't worry, though, ye "standardizers", about your superannuated brother. If that story about "the place upstairs" (the existence of which some of us loudly proclaim with our lips, yet seriously doubt in our hearts) is not entirely a myth, he's been standardized, all right. And, if it is a myth, he left a little more than most of us usually do—a little more than the wreath of roses to be withered on the day after he embarks upon the journey the destination of which may not be; he has left a portrait painted by himself. And, his pigments he mixed with the same sort of stuff with which Sir Joshua Reynolds mixed his, —That is, for other folks he did. But, for himself—well, he just didn't have the time with all the other things he had to do to use his brains for himself.

But he's standardized. Gentlemen of the self-knighted peerage of the Medical Profession of this Republic—He's STANDARDIZED.

FOR THIS I PRAY

O, Lord,
Give me work to do.
Give me health.
Give me joy in simple things.
Give me an eye for beauty,
A tongue for truth,
A heart that loves,
A mind that reasons,
A sympathy that understands,
Give me neither malice nor envy;
But a true kindness
And a noble common sense.
At the close of each day
Give me a book
And a friend with whom
I can be silent.

Mrs. Scottie McKenzie Frasier,
Dothan, Ala.

The Law and the Profits

By ELIZABETH C. FITZ SIMONS, Pittsburgh, Pennsylvania

THE roar of the March wind prevented Dr. Lockhart from hearing the opening of his office door; but the bang with which it was closed caused him to look up from the evening paper.

"Glad to see you, Hains," he cried, "I'm trying to catch up on this trial—been so busy lately! Aren't you nearly through with it?"

"Yes," answered Hains, who was counsel for the defendant, "the case will very likely go to the jury tomorrow."

"And will the jury acquit Stevens?" asked the doctor.

The lawyer, with a slight sideways motion of his hands, answered:

"You can never tell what a jury will do."

"Brunner was a fine bookkeeper, was well liked and one of the last men in the community that one might expect would have such an enemy! What was the motive?"

"Another case of Ahab and Naboth," answered Hains, "Stevens wanted to buy some of Brunner's stock in the iron works, and Brunner wouldn't sell. And Stevens says he put half a grain of arsenic in the glass of water that Brunner always kept on his desk —he was a great water drinker—There was to be a meeting of the stockholders that afternoon, and he wanted Brunner to lose his vote and influence by being too ill to attend the meeting."

"Didn't the chemists find that he gave twice that amount?"

"Oh, yes, there was a grain of arsenic found in the stomach. The testimony shows that he bought half a grain twice. At noon on the tenth of December, Stevens went to Cook's Pharmacy and bought a bottle of clam juice, two pounds of castile soap, and half a grain of arsenic."

"Who gave him the prescription?" interrupted the doctor.

"He told Fred Cook he wanted to use it in making up a recipe he had for rat poison, and Fred made no bones about giving it to him. Then he went toward his home, and, in crossing the railroad track, hurried to avoid the 12:28 express, let the package fall and, of course, the bottle broke. Then he went back to Cook's—taking the bar of soap with pieces of glass sticking in it. He laughed about it, and told Fred Cook to hurry up and refill the order, all the time joking about one thing and another. Fred supposed the arsenic was destroyed, too—if he thought at all! Old Kasper Cook would have demanded to see the damaged arsenic before selling more."

"Was that the way? I had not heard it all connectedly. There is so much sickness, this winter," remarked the doctor, rising to answer the telephone.

"This is Dr. Lockhart."

"....."

"Reduce the patient's temperature, Miss Wilkins. Give the other medicine and call me up in an hour; I will come out if need be." As he resumed his seat, he remarked, "Another of Thomas Grove's children has typhoid fever—pretty serious case!"

"This is an awful night to drive over there," replied the lawyer.

"I will walk if I go, it isn't fit to take a horse out tonight."

"Doctor, if you had been called at once, when Brunner drank the poison, would you have given the remedies that are directed to be given in these 'first aid' lists one so often sees?"

"No, I would not. Those things are the best that can be used by the laity and are likely to be at hand. But a physician knows how to use antidotes that are not to be found, ordinarily, outside of his supplies, and that would not be safe or successful in the hands of inexperienced persons."

"Ah! I see. Hydrated oxide of iron, being insoluble, would be harmless in one's stomach?"

"Yes," answered the doctor, "but Brunner had no one to do anything for him."

"No, of course; there was no one to do anything for him. He was quite alone all afternoon. When Stevens left the drugstore, he went back to the office and got his umbrella. Coming out, he met Brunner returning from his lunch. Stevens went home and stayed until four o'clock, when he went to the meeting of stockholders."

After a few moments' silence, the doctor remarked, "This is going very hard with Mrs. Stevens. Her life has not been happy since her second marriage. Although Stevens is worth a million, he is very close; their housekeeping expenses are managed with rigid economy."

"Is that so? He has not been at all close in the fee he has agreed to pay me in the

event of his acquittal."

"No, I would suppose not. But it is a fact that his step-daughter makes her home with her father's people in England, on account of his stinginess. Mrs. Stevens should certainly now have the comfort of having her daughter with her, but she has insisted on keeping her in ignorance of this whole affair, and is using every bit of strength and courage she can muster to keep up until a verdict of acquittal is rendered. If it should be the other way, the shock and the disgrace will kill her—and I have yet to hear one person express a hope for Stevens' acquittal!"

After a few moments' thought, the doctor referred to the intense feeling and interest shown by many friends and relatives of Brunner, adding: "This afternoon as I returned from visiting a patient a few miles south of town, I met perhaps a dozen sled loads—Brunners, Hufners and Diebolds, returning from court."

"Yes," answered Hains, "they are very fierce! There should have been a change of venue. But, in all the testimony, there is nothing to prove that Stevens put all the poison in the glass of water on Brunner's desk—Doctor, we can save Mrs. Stevens' life by proving that even a grain of arsenic will not kill a man."

"Why, man! We know that it will."

"Now, see here, Doctor, a lawyer has to know something of a good many occupations beside his own. I have studied this question pretty carefully, but I need your assistance. I cannot venture alone. I will fortify myself thoroughly with hydrated oxide of iron and then take a grain of arsenic in open court."

"Oh no, my boy, you won't run a risk like that! We must make 'every lawful endeavor for the preservation of our own life and the lives of others', but we are not required to save the life of your client by risking your own, and this scheme of yours does not strike me as being 'lawful endeavor', either."

"It's a bold stroke! but you are willing to set out this stormy night, cold, windy, icy—'not fit for a horse', you will risk life and limb for your patient—your client, and this plan of mine will save my client, and Mrs. Stevens, also. Brunner's family is not disgraced by the manner of his death; but, if Stevens is hanged, his innocent family will be disgraced for generations. Why, those relatives of Brunner's have made up a purse of fifty thousand dollars as an additional fee for the attorneys who convict Stevens."

"Listen to me, Hains; you have no call to do a thing like that. It is a fact that we know the effect of one drug upon another, and in an emergency use them with much success, but we aren't hunting for trouble. As I said before, I have not been able to keep up with this case connectedly, but I know that the Commonwealth proved the finding (under Brunner's desk) of two wrapping papers, one with the printed label 'arsenic' on it, and the other with 'arsenic' written on it, and Fred Cook identified both as having been used by him in putting up the arsenic he sold to Stevens."

"I know all that, Doctor, and I tell you, this course I mean to take is the last turn I can make in my effort to save my client. We both know that hydrated oxide of iron is insoluble, and, combined with arsenic, produces oxide of arsenic, which also is insoluble and therefore harmless. In saving the life of Stevens—even if he is guilty—Mrs. Stevens' life is saved and much embarrassment removed from their large connection of relatives, not to mention the happiness of Alice—Miss Hinckley," he hastily corrected.

"No, you're wrong there; Alice Hinckley does not care a rap for her step-father."

"Well, Doctor, am I to go it blind, or will you see me through?"

"If you are determined to run risks, Hains, I suppose it becomes my duty to see you through and prevent you from sacrificing your life," answered Dr. Lockhart, reluctantly. "You will have no one to prepare this for you, and I'm afraid that in your excitement you may make a mistake."

Taking pen and paper, he wrote, and then, bringing a bottle from a medicine chest, gave it to Hains, saying, "Now follow exactly these directions; here is all you need."

"Thank you, Doctor; I think you will see this matter in a different light later," Hains replied as he turned up the collar of his overcoat, picked up hat and gloves. He bade the doctor good-night, and, on reaching the door, paused to say: "The weather is moderating fast; we'll have rain tomorrow."

* * *

In the middle of the following afternoon, as Dr. Lockhart returned from visiting country patients, his mind turned again to Hains—their conversation, his firm determination to save his client. Two questions had alternately and persistently presented themselves ever since Hains left him the night before. "What was, really, Hains' object?" and "Did I do right in helping him carry out his scheme?"

Coming slowly toward him were several

vehicles. The rain had worn away the ice and snow in patches and the sled runners bore hard on the rough, frozen earth. At length, the doctor turned aside to pass a sled load of people, and recognized a family of Brunners.

"Court adjourned so early?" called the doctor.

"No," answered the man, "We had nothing to stay for any longer an' we're going home to get the chores done early tonight. Get up Pete—Bill!"

"Why didn't you tell the doctor about it?" a woman asked, before they were out of hearing.

"I don't feel like any talking."

Dr. Lockhart wondered, "Surely the verdict is not rendered so early." When he reached the next sled, the horses were resting.

"What you think, Doctor," an old woman called, "they aint' going to hang Stevens nor nobody, for killing John Brunner."

"Why, how is that? Is the jury in?"

Joe Brunner answered, "Yes, Doctor, yes, they went out and came back in forty minutes."

Here a sled load of Hufners drove up and stopped. Mrs. Hufner's face was angry and tear-stained; she exclaimed, "Ha! Doctor, we have raised fifty thousand dollars to pay them for hanging Stevens, and now that Lawyer Hains, he told the jury that nobody can hang him when they didn't see him put poison in the water my brother drank."

Then another voice chimed in, "And he had two men from the drugstore, an' they weighed as much poison as Stevens gave to John, and then that lawyer got some buckwheat cakes and molasses from the restaurant, and, what you think, Doctor? He put that poison on the cakes an' he ate it all up! an' then he went on an' told the jury they would see how that wouldn't kill a man, anyhow."

"And did it make Hains sick?"

"No, he wasn't sick. I looked back at him as I came out of the courtroom, and he was standing by a table folding up some papers and putting them in a big envelope, and there was nothing wrong with him."

"It's an awful bad way, Doctor, that nobody is going to be hung, and John Brunner is dead! and he was the smartest of all the Brunners, an' he was educated so much. It's awful bad."

"The whole thing is very sad," answered the doctor.

"That's what it is, Doctor," replied Joe Brunner solemnly. "Well, we better be getting home. Our chores have been only half done these days we've been at the courthouse."

"I guess we'll do something to Stevens yet, anyhow," added Mrs. Hufner. "He had no business trying to make a man sick with poison—he said he did do that.'

"Yes, he surely did say that," the doctor replied as he drove on.

* * *

The Limited express whistled for the road crossing, half a mile ahead, then dashed across, stopped at the station a moment, and was on its way to New York.

When the doctor reached the foot of the hill, he met another sled—a pair of bobs, with a wagon bed having a high spring seat. The team was driven by young Hufner. His companions, boys and young men, were his cousins and neighbors, among them a man called 'Lune' Diebold, whose mind was not well balanced. Diebold stood with his back toward the driver, holding onto the high seat, while he harangued to the boys about burning jails and houses. As the doctor passed, "Lune" Diebold exclaimed, "It was our mistake, boys, we could have burned the jail last night, and had him sure, but now, where is he? Gone like the wind, on the fastest train that ever ran through this town," then lowering his voice, he added, "But we'll watch till he comes back."

"What a crazy fool!" muttered the doctor, and again he asked himself "What possessed Hains? Why did he do it?"

* * *

A ten days later, Dr. Lockhart, reading the evening paper, exclaimed, "Listen to this, mother:

"Miss Alice Hinckley, who during the past two years has been the guest of her uncle, Captain George Hinckley, and his wife, of Manchester, England, arrived with them two days ago in New York on the S. S. Olympic.

"They were met by Miss Hinckley's mother, Mrs. Sarah B. Stevens, and Attorney Charles A. Hains, to whom Miss Hinckley was married at noon, yesterday, at the home of Mrs. Stevens' sister, Mrs. Joseph Aldrich, of Thornton Heights, by Rev. William O. Scott, D.D., pastor of the Third Presbyterian Church.

"Mr. and Mrs. Hains will be at home after April 10th, in the Brooks mansion, which was purchased last week by Mr. Hains.

"Mrs. Stevens will reside with them."

Military Preparedness

By A. L. BENEDICT, Buffalo, New York.

EDITORIAL COMMENT.—The discussion presented in the following pages was submitted by Doctor Benedict soon after the closing chapters of Blech's "Memoirs of the World War" had been published. It could not be printed until now, for various reasons; one of them being, that we desired to give ample opportunity to Doctor Blech to prepare a rejoinder for simultaneous publication. We believe the subject to be of vital importance; sufficiently so to merit a place among the leading articles of the Journal.

Editor, THE AMERICAN JOURNAL OF CLINICAL MEDICINE:

COL. G. M. Blech has shown so broad a mind in his interesting "Memoirs of the World War" that I feel sure he will pardon some discussion of his last article (March issue, p. 184), regardless of the writer's inferior rank; especially as the war is over and even reserve officers are rather encouraged to make suggestions.

1.—Regarding the slight excess of total French over total German troops, at the beginning of the war, we might go further than Col. Blech and hold that, granted there is time for training, military strength depends on the total militia which, for various reasons well understood by military authorities, is pretty close to 10 percent of the total population. In the case of countries in which practically universal military training had prevailed for more than a generation, this is even more true than in the case of countries like our own which has never had efficient universal military training.

2.—One advantage, which Germany had over France at the beginning, was in line with the generally accepted military principle that, other things being equal, an offensive policy is superior to a defensive. A carefully conceived aggression is almost always successful at the start.

The National Guard

3.—It should be understood that the National Guard rests largely on economic considerations. It costs less to pay for one evening a week than for seven days, not to mention the even more important conservation of labor for industries of various kinds. The addition of a reserve of more or less trained but inactive officers and enlisted men is a further factor of safety. It should be understood, however, that the policy of universal military training, the encouragement of civilian training camps, etc., diverts strength from the voluntary maintenance of the National Guard on its present basis, while the provisions for using the National Guard simply as raw material for the Army, in case of war, and the precedent of its disruption during the past war tends to weaken its prestige. As a Guard officer (though only since my discharge from the federal service during the past war), I should like to express the opinion that the National Guard should either be the sole recognized active military body after the Regular Army and that it should be assured of preservation as an entity composed of subordinate entities, or else that it should be abandoned in favor of some such temporary compulsory military service as has characterized the armies of continental Europe.

In estimating the potential value of the National Guard, it should be borne in mind that, while we are quite apt to speak of ourselves as evening soldiers, and recognize our inferiority to the Regular Army, the actual time spent by the Guardsman on duty is considerably more than an evening a week and the work is more intense than in the Regular Army in time of peace, especially for commissioned and the higher-grade non-commissioned officers. Approximately, the Guardsman works about one-quarter of the amount of the Regular and gets about one-eighth of his annual pay. This is not stated in any spirit of complaint. The relative independence of the Guardsman is more than worth the relative difference in pay. In fact, it is somewhat doubtful whether the pay of the National Guard has really proved an inducement to enlisting.

Another factor in estimating the comparative values of the Regular Army and the Guard is also likely to be overlooked: The Guard includes, especially in its non-commissioned officers, a good many Regular-Army veterans. On the other hand, the Regular Army necessarily consists to a large degree of new material and, like the Guard, is in a constant state of flux. Thus it often happens that a unit of the Guard may surpass a corresponding unit of the Regular Army in one or more details, such as holding a straight line at a review, synchronism in drill, marks-

manship, and other matters.

It should be remembered that, with certain exceptions mainly pertaining to administration, finance and other details of paper work required by legal or economic factors, the Guard does the same things as the Regular Army and in the same way, only it does not do them quite so often, nor on quite so large a scale and, consequently, it lacks many points of perfection. But, whether the imperfection of the Guard would amount to anything, practically, from the standpoint of national defense, or whether it would take more than a few weeks of additional intensive training to remove the rough spots, is questionable.

As to Discipline

The main point of difference is in discipline. To put the matter personally and concretely, my men are not afraid of me and I am not afraid of my colonel. We are a little lax about some details of military courtesy, mainly because of being rushed for time. Officers say "Sir" less frequently than in the Regular Army, and enlisted men (unless Regular Army veterans) use the second person in addressing officers. That third personal way of talking never lasted through more than a sentence or two in the federal service and it always reminded me of the distant past when grown persons inquired if "The little boy wanted to have his nose blown." As for loyalty and industry and that sort of thing, not to mention interest in the work itself, the Guard averages well.

Just how much value intensive discipline has, is an open question. The National Guard is more strictly comparable in this respect to the French Army with its fraternalism, to the Volunteers of the Northern States, and practically to the entire army of the Confederate States during the Civil War, to the American Revolutionists at least till Baron Steuben trained them, to the Boers, to the colonial American troops which fought so well and with such abominable lack of discipline almost side by side with trained British Regulars in the late seventeenth and early eighteenth century. All reports seem to show that our own discipline was relaxed as soon as troops debarked in Europe, and the wonderful discipline of the Germans had its drawbacks. For instance, long before the war, the Kaiser asked the criticism of a visiting officer in regard to the war manoeuvres. The criticism was to the effect that the attack was in masses that would result in heavy losses from counter fire. The Kaiser replied that that was the only way in which his men would attack. The prophecy of relatively heavy loss was fulfilled in several engagements during the war—unless, the reports were propaganda. One of my friends, a private, had both arms disabled in the Fall of 1918, but brought in three German prisoners. Of course, I am not discussing discipline from the military standpoint in a technical sense but merely from the utilitarian one of national defense. The soldier whose spirit is broken, who has no initiative, who has lost his sense of comradeship, is in one sense a highly desirable product of discipline, but it is questionable whether he will fight well.

Paper Work and Red Tape

4.—It seems to me that a much greater degree of optimism is permissible with regard to the leavening value of trained soldiers among raw recruits, than Col. Blech holds. For example, the medical detachment of a regiment consists of 30 enlisted men and 5 officers. Given one man familiar with army routine, to take care of property and paper work, the drills, instruction, care of equipment, service to other troops, development of esprit and recruiting can all be carried on satisfactorily. Without such a man, ten minutes' type-writing drags through a whole evening, the attention of officers is diverted from executive to direct clerical tasks for which the average medical man, in or out of military duty, is absolutely unfitted, the whole routine is upset and everyone becomes discontented. This is no fancy sketch but a before-and-after picture.

The elimination or even decided simplification of what is called red tape seems to me hopeless. The men who suffer from it have not the authority to remedy it until they have attained so long experience in it that they are not only personally freed from its worst features but have come to regard it as natural. Even the men who realize its iniquities, not as a matter of personal harassment but of interference with actual accomplishments, are as a rule lacking in the ability to suggest practical reforms. To call in experts from civilian life, would result in a still worse maze of filing cabinets, cross indexes and reports. It should be recognized that red tape is not essentially a military vice. The only difference between military and civilian red tape is that, in the Army, practically everyone suffers from any defect while, in civil life, any one not directly under the alternative duress of complying with rules or losing his job can dodge red tape. Four million men had the object lesson during the war; yet, many of those same men have come back into civil life and have subjected themselves to, or have voluntarily initiated,

complicated systems of book-keeping and "efficiency" methods worse than those conceived by the worst military martinet. The only hope, so far as military red tape is concerned, is, that it will be thrown overboard in a real fighting emergency, just about as it has been in the past; that a real genius will rapidly rise to a rank sufficient to enable him to institute reforms or that some ex-soldier, entering the political arena, will mercifully force the matter on the Army.

Training of Men

Under the assumption of a plan of skeleton Regular-Army units, to be increased five-fold in a military emergency, it seems to me that much could be accomplished, although it should be understood that I do not advocate that plan as the ideal or the sole method of providing defense, any more than does Col. Blech. By proper distribution of experienced men and by relaxation of discipline to permit immediate correction of errors, the close-order drill could be taught, in less than a week, sufficiently to handle troops. The slow progress at some training camps was largely due to the fact that men would stumble about all day because the men next to them were not allowed to whisper a word of explanation or touch them. Of course, this time would not produce snappy soldiers or neat alignment. The open-order drill is simply a matter of common sense and adaptation to circumstances; the only difficulty being, to simulate perfectly natural actions on a drill ground or smooth floor and to put the matter through in military style without getting back to the close-order drill. Men of average intelligence, even discounting the fact that a large proportion of civilians are fairly expert with fire arms, can learn in a very short time, especially with a veteran within reach to assist in difficulties, not to ruin a rifle, not to kill themselves nor their comrades, and to shoot in the general direction of the enemy. Some military men, including the Germans before the war, held that marksmanship was of very little actual value in warfare. All but the very wildest shots on a range would be dangerous to an enemy. A miss, in many instances would hit the next man and, if we consider the heart as the bull's eye, a low score by wounding takes more men out of action than an instantaneous killing. The marksmanship scores, made by fairly efficient units of National Guard or Regular troops, correspond theoretically in this: that two shots would kill or wound every man in an opposing force of equal size. It was said that, during the Civil War, it took a man's weight in lead to kill him. Certainly, there have never been reports of conflicts in which anything approaching the theoretic efficiency of expert marksmanship has been attained, but it may be that there are statistics showing the contrast between, say, (1) marksmen on both sides, (2) marksmen on one side, raw shots on the other, (3) raw shots on both sides; fairly even numbers being matched in each case. Of course, the value of expert marksmanship for certain services is undeniable, but the fact remains that, for an emergency, the rudiments of rifle practice would be of considerable value. So far as hygiene of the feet, practical sanitation on the march and in camp or trenches, practical instruction in various details, even maintenance of morale and courage, are concerned, even less than 20 percent of veterans distributed among raw recruits would be of incalculable value.

A good many military essentials can be dispensed with when we consider the army not as a profession, or even an assemblage of artisans, but as a protection against invasion. For example, raw officers can be spared quite a little time and trouble with regard to the saber, which is absolutely useless in modern warfare, although it was reported that a stone-age axe, found in digging a trench, became a useful weapon in the late war.

There are 40 pages of litter drill with 4 bearers in the requirements of medical troops. With proper allowance of time for other matters, it takes a year to learn this in the National Guard. In time of war, it is inconceivable that more than two bearers could be spared for ordinary litter work, and it is only a hypothetic patient that would want to be handled by the commands: "Right side posts, prepare to lift, lift, lower patient." One hour would suffice for all the instruction, included in the 40 pages, that would be of practical value. (It should be understood by those not familiar with the subject that the litter drill only touches on the actual care of patients and is distinct from "first aid.")

5.—It should be conceded by the critic of this article, that the viewpoint assumed is that of genuine emergency, with the country perhaps not so far from a state of military preparedness as in the latest instance but still very far from being in a satisfactory condition, and not having the luck to have an enemy weak on land and largely subject to naval attack, as in 1898, nor held at bay on another continent, as in 1917-18. The writer has always been a firm believer in discipline—

though mainly in an altruistic sense—and is very humble toward his superiors in military service, though not properly hard-boiled toward those of lower rank. He believes thoroughly in the importance of the subjects that might be omitted in a life-and-death struggle and, while it would be hypocritical to pretend a love of paper work, it would be foolish to contend that the army can be conducted without systematic book-keeping. However, this system should be either so simple that any one of fair intelligence could do the necessary paper work in a very brief time, or the whole matter should be left to a special department (for example an enlarged quartermaster department) requiring only needed information from the line and other departments and free to complicate matters to the heart's desire of its highest authority.

A. L. Benedict, late Capt. M. R. C.
Major M. C., N. Y. N. G.
Buffalo, N. Y.

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Reply to Major Benedict's Article

Editor, The American Journal of Clinical Medicine:

PERMIT me first of all to express my sincere appreciation, not only for the opportunity afforded me to see Major Benedict's timely article and to make reply to it, simultaneous with its publication, but also for the patriotic act in giving up so much valuable space to a problem of national importance, at a time when the majority of our citizens pretend to be tired of anything having in the remotest way any relation with war.

It is easy to discuss national defense when the nation is in martial mood and quite another matter when we all have become satiated with military preparedness. Only those who can see a few years ahead realize that the greatest danger to national security lies in the lethargic reaction following an exhausting campaign.

In looking over Major Benedict's article for the third time and in comparing his arguments with the ideas I have promulgated in the last chapter of my book (for, a book it will be) on war reminiscences, I fail to see wherein we are seriously in disagreement. It seems to me rather that we are very much in accord on vital questions, though it is clear to me now that I could have been a little more explicit in stating some of my ideas. Instead of taking exception with any one desiring to discuss anything I have contributed and hope to contribute to your columns, I am sincerely pleased that a man of Major Benedict's caliber has seen fit to honor me with a lengthy discussion, and I trust that he will accept the following reply in a spirit of good camaraderie.

I shall not touch on the ante-bellum military situations in European countries, because these are of no great interest to us. While a good military student should be familiar with the methods of raising, equipping and training civilized armies all over the earth, the lessons cannot be applied to our country unequivocally. It is with military preparedness a good deal like with strategy. A professor of strategy, who would repeat a lecture delivered before a class of French cadets, acknowledged by all French generals to be a masterpiece, to a similar class of Belgian or Swiss subjects, would be decried by the critical students of military affairs, in those countries, as one promulgating misleading doctrines. And rightly so, because, what is sound doctrine in France, is impractical and dangerous in Belgium or Switzerland. Why? Because the geographic location, the political role and the military problems of the diverse nations dictate preparedness for potential military activities which are distinctly at variance with each other.

To make it plain, France is a large nation exposed to danger from naval attack almost on all sides, with one border several hundred miles in length facing a potential military giant acknowledged to represent the acme of efficiency, with colonial possessions in Africa and Asia requiring the maintenance of large units of colonial troops, while Belgium is only a buffer nation and Switzerland a peace garrison securely entrenched in a moral and physical mountain fort, virtually impregnable even to modern armament.

The same simile applies to the United States. We may have trouble with Mexico, an oversea nation may declare war on us, or we may have to declare war on some distantly located country. In either case, the immediate danger is not a matter of hours. To make it plainer yet: France, Germany, Austria, the Balkan States, etc., find themselves a good deal in the same boots with an industrial surgeon who may be called upon to perform an emergency operation which brooks not a moment's delay, while the United States can be called upon to do work somewhat like the surgeon who appoints an hour for a planned operation and, therefore, has time to look up his anatomy and refresh his memory on complicated technical points.

If these premises be correct (and, in the light of our past history, they cannot be suc-

cessfully disputed), I think that I was justified in proposing a regular, or professional, army large enough to maintain combatant, technical and administrative units for potential immediate needs but especially for the purpose of training our youths.

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As regards the National Guard, I cannot be accused of prejudice, for I am an old National Guard officer myself and, indeed, my happiest days have been spent in the Guard. I have not attacked this institution, but I have endeavored to be just in my estimate of it as a military body. Major Benedict stresses on formalism. I am a firm believer in discipline, I demand that military courtesies be observed, and especially so in the Guard because, there, officers and men live in the same communities, may be close individual friends, and there is danger of the old adage, that familiarity breeds contempt, turning the Guard into a social affair rather than a military body. Under present conditions, that is, in the absence of compulsory military training, the Guard stands between military defense and nothing, and every friend of the nation must jealously guard its interests. I do not care whether an enlisted man used to say to me: "Doctor, may I go home tonight a little earlier. I'll surely be glad and thankful if you will let me go home," instead of: "Will the major please permit me to drop out now because so-and so"—because all these little formalities to the mind of a thinking man are remnants of bygone days. But I do care to avoid such a scene as to hear a corporal telling his platoon commander: "Jack, lay off on me, you have been giving me all the dirty work and I reckon its time you pick on somebody else," and, when the lieutenant expostulated, the corporal telling him to go to a hot place and turning his back on him. May be, some democratic painter can vision Jack dying in the corporal's arms while the latter is firing his automatic pistol furiously at his lieutenant's assailants, but I cannot vision it because I have seen these corporals and lieutenants in battle.

However, this can be remedied before a campaign by transfer or reorganization, and it may not be so serious as I fancy it is. What is serious, is the fact that, in spite of federal control and supervision, the name, National Guard, is a misnomer in that it represents a conglomeration of state troops, pure and simple. Well and good if a governor says to his political backers: "Hands off!" But, how many do it? Is it not a fact that, with every change of administration, the Guard is looked upon as a legitimate field for political exploitation, not only with the adjutant-general and administrative offices, which are in most states appointive offices, but even with regimental commanders?

The Greatest Danger

And, herein lies a real danger. Colonel A. commanding the xth Infantry is a wonderful officer. If it were not for certain circumstances, this man would have been a brigadier general in the regular army. He is a graduate of West Point who had to leave the Army, much to his regret, to take over important business matters in the interest of his family. He applied for appointment in the Guard of his state and, by his discipline, knowledge and devotion to duty, developed a splendid regiment which could boast of an esprit de corps seldom seen even in the permanent establishment. Colonel A. is known to be a staunch Republican, a thing not usually looked upon in our country as a particularly heinous crime.

A Democrat is elected governor of his state. Powerful political influences are tormenting the chief magistrate to retire Colonel A. and to appoint in his place some incompetent captain who did yeoman work for the party at the polls. And the thing is accomplished. What, do you think, becomes of the xth regiment? This is not a fantastic tale. I can give facts galore.

As I have said, I love the Guard, and I repeat, it has a right to exist and have certain autonomy. But, it requires complete federalization and entire independence of state control. Let the states organize state constabularies and allow the National Guard to develop itself as a semiprofessional army. If this cannot be accomplished in the next ten years, then some president with backbone will abolish the Guard as a national military asset and authorize the organization of reserve units. That this is feasible and legal, no one can doubt. Let us not forget that, while we have heard a good deal about the illegality of the draft, there is a law on our statute books which makes every adult male citizen of the United States a member of the militia. I do not pretend to be a lawyer, but I have a feeling that I am not amiss when I maintain that the same nation, which can order you to abandon your business and sit on a jury, has also the right and power to make you give up some of your time to serve in the interest of its security.

There is more to be said about discipline

[*Concluded on page 500.*]

Surgical Seminar

Conducted by GUSTAVUS M. BLECH.

Acute Pancreatitis and Perforated Peptic Ulcer

IT will be recalled that, instead of a surgical problem, as has been our custom for some time past, we submitted, in the May issue of the Journal, a surgical exercise, partly because it was believed that a variation in the surgical bill of fare would aid the mental digestion, partly because the opportunity for the Editor to learn something of the way in which our readers analyze surgical situations appeared to be a real one.

Selecting a situation which, symptomatically at least, had much in common, we invited a free discussion on the differentiation between peptic ulcer which had perforated and acute pancreatitis. To be exact, we asked our contributors to state briefly their experience and the differential diagnosis.

The exercise resulted in several communications, but most of these cannot be given, because they admittedly were not based on personal observation and bore the earmarks of quotations from the literature.

Three contributors distinctly stated that their observations were based on clinical experience, but that their diagnoses were neither proved nor disproved by surgical operation.

Dr. L. N. . . . . Iowa, writes:

Your departure from the presentation of abstract surgical problems appeals to me, because now I have an opportunity to present my own observation and do not have to fear that I am on the wrong track. On more than one occasion, when confronted with what is commonly called "acute belly", have I wished that I had some definite guides by which I could arrive at an exact diagnosis, since I am proud enough to feel that a mere exploratory laparotomy is a confession of diagnostic bankruptcy.

But, all this serves no purpose when you are called in to see a patient who appears to be desperately ill with an acute abdominal disease of some kind and, even without a rich clinical experience, a glance at him suffices to caution you that, unless heroic treatment is instituted, you are going to lose the patient, may be, in twenty-four hours.

I recall one case right here in my home town, a few months before the war, which, I hope, is interesting enough to merit publication.

Mr. D. A. B. aged 43, married, a bookkeeper, rather obese and known to be a moderate drinker of alcoholic stimulants. Has consulted me several times, during 1916, for gastric distress which I had diagnosed as a chronic gastritis, in all probability due to drinking. I cautioned him about the ill effects of alcohol and gave him nux vomica, capsicum and bicarbonate of soda in variable combinations, all of which seemed to help him very quickly, since I saw him every day on the street and his admiration for my "wonderful pharmacologic skill" (?) appeared to be bona fide on his part. At any rate, he appeared in the best of health.

In January of the following year, his wife called me rather excitedly, asking me to come at once, for, this time, her husband appeared to her desperately ill and, indeed, had screamed from pain something he had never done before. I took with me my emergency bag and went to his house, only a block away from my home.

When I saw him, he looked as if he were in collapse, his pulse being thready and about 140 per minute. He complained of intense pains all over the abdomen but especially so in the pit of the stomach. He had vomited several times, was vomiting in fact as I entered the door to his room and, during the examination, had several eructations. Palpation of the abdomen seemed to me to reveal a certain degree of rigidity of the rectus muscles.

After I had concluded the examination, my diagnosis was—perforated ulcer of the stomach and beginning general peritonitis.

I gave morphine as a tentative measure—if I remember correctly ¼ grain and 1/120 grain of atropine—hypodermically and urged

an immediate operation.

Consultation was obtained within an hour with a neighboring physician who had done much surgery of the emergency type and in whose judgment I had much confidence. He positively agreed with my diagnosis and, while we discussed gall-stone, both of us rejected it for two reasons; first, because the attack appeared too severe for even a violent attack of gall-stone colic, and, second, because of a previous history of stomach trouble.

In about another hour, we were ready for operation under general anesthesia. As soon as the peritoneal cavity was opened and the stomach delivered, we began to search for the ulcer. But the palpating fingers betrayed nowhere any evidence of an ulcer, either in the stomach or the duodenum. The gall bladder, too, appeared normal; nor could anything abnormal be felt in the biliary ducts. Inasmuch as the intestines seemed more distended than is usual in laparotomies, Dr. M. made a hurried search for an intestinal obstruction; but this, too, lead to nothing. Finally, Dr. M. palpated the pancreas and at once said that that organ felt thickened and hard. By this time, the patient's pulse became running and irregular and, after filling the abdominal cavity with normal saline solution, we closed the wound in two layers, put the patient to bed and stimulated him in the usual manner. Four hours after the operation, he died. We were permitted a partial necroscopy and this confirmed the diagnosis, the coroner (a physician) kindly having come to verify or deny our findings. He agreed in the diagnosis.

Now, I should be glad if you would tell us wherein we erred diagnostically and therapeutically.

———

Reply:—

I think, I can truthfully say that I am personally acquainted with many leading American and European surgeons and that I have read every book and monograph on abdominal surgery worth reading, and I still have to find the surgeon and author who can give us definite rules for an exact diagnosis of acute upper-abdominal disease.

Nay, I could go a step further and include the lower abdomen, for a displaced appendix may, under certain conditions, simulate pathology of the upper abdomen.

There are, frequently, conditions which baffle even the most expert diagnostician. From a purely practical point of view, this is not of vital importance; for, after all, the knife is the thing to resort to in all such conditions; with this proviso, however, that the surgeon should be prepared technically to cope with any situation that may reveal itself.

If it is recalled that Germany's foremost surgeon was suffering from acute pancreatitis, to which disease he succumbed without the eminent surgeons around him having even dreamed of this serious disease, I am not going to make even an attempt at criticism.

Still, the main thing is, to bear this disease in mind whenever confronting acute or, rather, intensely acute abdominal disease, and especially when the principal symptom—neuralgia-like pain—is located in the epigastrium.

If a critic should point out that you had something of a guide in the fact that your man was somewhat obese, you can reply with impunity that the textbook information is misleading; for, I have seen at least two cases of hemorrhagic pancreatitis in youthful and lean persons.

The fact, that your patient had gastric distress before the attack, also is of little clinical significance; for, it is a symptom that may or may not precede acute pancreatitis.

When this disease manifests itself with its classical symptoms, a mistake is not very likely to be made; because there is no other abdominal trouble with which it could then be confounded. However, in a practice of over thirty years, I have never seen a case with upper abdominal "tumor", intestinal obstruction and absence of evidence of peritonitis.

True, I have seen about four or five cases of subacute or mild pancreatitis, but, of course, we are not now interested in this condition.

In comparing acute pancreatitis with perforated peptic ulcer, one is at a loss which particular symptom or group of symptoms to put up against each other. Previous trouble, traceable to the stomach, in peptic ulcer, may and may not have existed before the attack. This, too, may be sudden, extremely intense, with and without immediate evidence of peritoneal involvement.

Several authors correctly state that, in peptic-ulcer perforation, the resulting *collapse* is not as pronounced as in acute pancreatitis. Collapse is something that can not be measured with precision. I have seen the worst cases of collapse in toxic conditions—it is all a matter of individual resistance. In other words, some individuals may have a mild trauma and show collapse while others may have a severe trauma and the collapse be mild in comparison.

While I have asked that only these two

conditions (acute pancreatitis and perforated peptic ulcer) be discussed, other possibilities should be borne in mind, in all acute abdominal disease. To do so today, though, would lead us too far. We hope to come back to this at a season when, as one of our friends writes me, the fishing tackle is not the most interesting problem to be unraveled.

There is one more thing to be discussed as regards the diagnosis. A contributor points out that the term "acute pancreatitis," *per se,* is meaningless. I know that very well, but in reply, I say that we are lucky if we succeed in correctly recognizing existing disease of the pancreas. No mortal man can establish, before operation, the exact form of pancreatitis that we are confronting. Indeed, that is of little practical interest at that moment. Only when the pancreas has been brought to view, does the particular form come in for consideration.

In the case under criticism, the mere palpation of the pancreas and the establishment that that organ is thickened is not very enlightening; for, it is just as likely that you two gentlemen palpated a carcinomatous pancreas. Carcinoma of the pancreas is relatively frequent. I have seen one case at least in which one of our leading surgeons thought of tumor of the spine and had a number of x-rays taken, which, to the disgust of the family, were interpreted in all sorts of ways. To my poor untrained eye, the radiographs did not betray any pathology at all.

Of course, with the patient sinking fast, closure of the abdominal wound and stimulation was the only thing to do. What drugs you used, you do not state; but, here is a case where large doses of strychnine injected hypodermically might have done some good. As a rule, I have little faith in strychnine, and, in this case, I do not mean to imply that it should have been given for the collapse, but, rather, to affect the primary condition.

For this, I have no scientific explanations, still, I know of one case, the wife of a surgeon, who suffered from acute pancreatitis (the symptoms were classic in this case), whose life was saved through injections of heroic doses of strychnine, the patient having declined operation.

Now, as to the operation itself. The pancreas must be exposed either through the mesocolon (transverse) or, if the viscus bulges, through the gastrohepatic omentum or the gastrocolic omentum, through a transverse incision in a bloodless or, rather, blood-vessel free portion of either omentum. Wherever the incision is made, the transverse direction is best. The steps to be taken now depend entirely on whether the pancreatitis is hemorrhagic, interstitial or necrotic. Drainage and tamponade, incision or even excision of the tail of the pancreas are the steps dictated by the particular pathology encountered.

In compliance with the wishes of a number of our readers, we hereby announce a new feature, namely, a discussion of

Surgical Therapeutic Errors

The following communication is, so far, the only one available.

Dear Colonel:—

You will, no doubt, be surprised to hear from me. I am really afraid that you will not recall me. So, I will remind you that I served under you at Base Hospital 208 and that you frequently came to the genitourinary department and demonstrated to me a number of new operations, of which I knew nothing, although I was supposed to be a pretty good G-U specialist.

Recently, some of our boys passed through here and told me about your work, as a department editor of THE AMERICAN JOURNAL OF CLINICAL MEDICINE.

I know you too well to dare say how much I appreciate your efforts; but, really, they are of immense value to us younger surgeons. As I am writing you in the capacity of a reader, I beg to say that I feel free to apply to you for aid.

It occurs to me that this is really what the Seminar is for: To help us young fellows who have neither sufficient experience nor the means to overcome unusual difficulties. And, if you will pardon me, allow me to suggest that you inaugurate, in the Seminar, a department of help, not only in the matter of diagnosis, but in all other activities of our craft—therapy, surgical technic, for example.

If you so desire, I shall deem it a favor if you will tell me, either through the pages of the Journal—the Surgical Seminar—or, if you prefer, through a private communication, what was wrong with my technic, if an error there was, in the following case.

A young man of about thirty years old has suffered for some time from symptomless hemorrhages from the bladder, for which he received all sorts of irrigations and prescriptions by several physicians, but without relief.

When he came to me, he was quite worried. Cystoscopy confirmed my suspicion that his was a case of papilloma of the bladder. As

the kidneys appeared to be normal and there was no other contraindication, I suggested an operation which was immediately accepted.

The operation was performed in the usual manner. After opening the bladder-wall extraperitoneally, I brought several tumors to view. As they had broad bases, I excised the area containing the tumors and sutured the wound surfaces longitudinally; that is, in the axis of the body.

I closed the bladder-wound almost completely, except to permit the passage of a soft-rubber drain. For three days following the operation, I had troublesome hemorrhage from the interior of the bladder.

What I want to know is the source of the hemorrhage and the reason for it.

"CADUCEUS."

Maryland.

—

I have replied to my old war comrade by a personal letter, which will be published in the September issue. Meanwhile, the readers are urged to send in their own views on the problem.

[*Concluded from page 496.*]

than either Major Benedict or I have said, but it is now generally understood that the drill is only a means to the end. The whole litter drill, to cite an example, is smashed to smithereens under stress of battle. Still, it helped to keep the men under fire without yielding to the instinct of self-preservation. Display and music and flags and ceremonials and parade marches and ribbons and goose-stepping and what not are too insignificant externals to require philosophic analysis. War is a serious business. War requires leadership and trained, thinking following. This cannot be attained in camps, parades, armories or lecture halls. All these are but the preparatory elementals. The main thing is practice and, as wars cannot be produced at will, the men must be taught under conditions simulating war. The Fall, when the harvest is in, should see divisions and divisions, organized as army corps and armies, face each other in mimic battle. During the cold winter, the commanders can explain what happened. Officers and men will appreciate what they have been through as human beings, not merely as cannon fodder. The generals will talk over the grand strategy, the colonels their regimental missions, the captains, lieutenants and sergeants their little roles and the enlisted men, who did the actual reconnoitering and fighting, will be able to take the leadership that may fall to their lot. We of the medical service have similar problems within the frame of the combatant strategy and tactics, and we must solve them in a similar manner.

What our nation now needs is a general recognition that all peace hopes and promises are, to use a vulgarism, political bunk.

We must be conscious of our dignity as American citizens, rise as a body and silence the reds and the insane, upholding the hands of our government and not barking at it because we did not get all the military titles and decorations that the other fellow got. I, too, had to wait a long time until I attained the right to wear the silver spread eagles on my shoulder knots, and, while a foreign government has seen fit to honor me in a military sense, my own government has not thought my work sufficiently distinguished to merit bestowal of a decoration, although I have been recommended for it. I am fifty-three years old and the chances of my seeing active duty again are slim. Yet, if another call came, I should go again, even if I knew that I would never return home. However, I am not waiting for the call. I am a reserve officer now and I am ready to give up every minute needed and every dollar I do not need for my existence to further the cause of national defense.

My story has been written partly as a personal narrative, partly to bring home some lessons. If it arouses some members of our profession to think and to sign up again with the Army or Navy, my hours spent under the light of the midnight oil will be more than repaid. With old Europe in the throes of anarchy and hatred, life in the United States is paradisical in comparison. Surely, it is worth while to give up something to make certain that our flag will float over our ramparts forever and ever! So mote it be.

GUSTAVUS M. BLECH.

The General Practitioner

Talks About Professional and Personal Problems
Conducted by WM. RITTENHOUSE.

The Boy and the Farm

ONE of the most serious problems of our day is the tendency of the farm dweller to gravitate to the city. This tendency is not only a large factor in the high cost of living, but it has also an important bearing socially on the happiness of thousands and on their success in life. It makes it more difficult and expensive for the farmer to secure the labor necessary to cultivate his farm, thus making everything that he produces more costly; and many a youth who, under proper conditions and with suitable education, might have become a modern, up-to-date, and successful farmer, goes to the city and spends his life in a more or less successful struggle to rise above mediocrity.

Glamour of City Life

There is a glamour about the life of a great city that appeals with a strong fascination to the imagination of the boy brought up on a farm; a glamour that, too often, is found to be delusive and unsatisfying, when too late. Many a young man leaves the farm and spends the rest of his life in a hard struggle to keep his head above water in the great whirlpool of city life. If he is simply an average individual, he finds himself in competition with a vast multitude of other average individuals, and his life becomes a series of deprivations and self-denials, all because he wanted a "white-collar job."

Of course, if he has real ability, he may be one of those few who become distinguished for success in one line or another. It is a well-known fact that very many of our successful business men were country boys. There is something in the discipline of farm life and work that develops character and makes for success in any walk of life. However, if the boy who was brought up to hard work can succeed in city life, there is no reason why he should not succeed also as a farmer. Thousands of them are doing it, and are getting more out of life than if they had taken up a career in the city. There is today as much opportunity, in farming, to make use of a scientific education and modern efficiency methods, as in manufacturing or commerce. Many farmers are sending their sons and daughters to agricultural colleges and even to literary colleges, and those same young people are working a revolution in farm methods and farm life.

The Farm as It May Be

It has often seemed to me that, if I could paint life on the farm as it is, or rather as it is in many cases and might be in all, I might do my bit in stemming the tide that is constantly flowing cityward, and that means success for a few but a life of deprivation and hardship for the many. To be poor in a great city, is not conducive to happiness.

It has been repeated so often as to be trite, that the farmer is the foundation of our social structure, and that the rest of the world are consumers, while he alone is the producer. And yet, trite as this fact has become, we do not sufficiently sense it or appreciate it to the extent of acting upon it.

With the telephone, the automobile, the abundance of books, magazines, and newspapers, farm life is no longer the lonely and dull existence that it was a generation ago. In fact, I believe from my observation during my yearly vacations that the young people on the farms are today getting more out of life, I mean more that is worth having, than their cousins in the city.

Then and Now

My own boyhood was spent on the farm long before all these modern improvements had come to brighten country life and, during my teens, I was fascinated, like so many others, by that glamour of city life seen at a distance. Many a time I leaned on my hoe or rake in the field and watched the railroad trains go by, with the thought that I could be happy if I were only on board on my way to a great city, where not only fortune but a continual round of pleasures awaited those who

were fortunate enough to throw off the shackles of farm slavery, as I then considered it. That was at first. But later, when an older brother did go to the city, things began to look a little different. The letters he wrote home, describing his struggles to get a foothold and also telling of the many unpleasant features of city life—the smoke, the dust, the heat, the dullness of life in little bedrooms that were the only places that thousands called home—rooms so small that even the dogs learned to wag their tails up and down instead of from side to side—the restaurant- and boarding-house food so different from mother's bountiful table—all these things set me to thinking, and I began to let my mind dwell upon the other side of the picture.

Another Side

Most boys are not fools, and they can see the truth if it is properly presented to them. I began to see in what respects country life was more satisfying than I had supposed, and to realize how well off I was. By the time I was seventeen, I had got over the fever that had filled my mind with hallucinations about city life, and I was content to map out a career along other lines. When I did finally go to the city, at twenty-five, it was rather unwillingly and without illusions; it was only because the exigencies of a professional life made it necessary.

If there are those who wonder what there can be attractive in the life of a boy born on a farm and growing up to take his share in its daily work, I beg to submit a few of my own experiences.

I was born in what is now the fruit belt of the Province of Ontario, but which was then devoted to mixed farming. My father had taken up a hundred-acre tract of forest, when he married, in 1827. In my boyhood, there was still twenty acres of this in forest which was being kept for fuel, lumber, and building timber. The other eighty acres were in a high state of cultivation. Instead of depending upon a single crop, such as wheat or corn, as is done in some parts of the West, each farmer raised a variety of crops, trying as far as possible to produce everything that he needed. This made possible the rotation of crops which brought the land into a condition of steadily increasing fertility, instead of impoverishing it, as the one-crop system does. It also spread the work more evenly over the whole year, in such a manner that a farmer with several sons (and they had large families then) could get along with very little hired help.

A Productive Farm

On my father's farm, we raised wheat, rye, oats, barley, corn, flax, and buckwheat; clover, timothy, and blue-grass for hay; potatoes, turnips, and pumpkins for cattle feed; sheep for wool and mutton; cows for butter, cheese and beef; horses for road and farm work; pigs for hams, bacon, and lard; besides chickens, ducks, and geese. We had fruit of every kind: apples, pears, peaches, plums, grapes, cherries, berries, and melons; also wild nuts in abundance, chestnuts, walnuts, butternuts, hickory nuts, beechnuts, and hazelnuts.

Pleasant Work

From this enumeration, it will be seen that there was work all the season through. There was no time when we were overwhelmed with it, but there was always something to do. Most of the work was pleasant, because it was not too hard, and because it was outdoors amid the beautiful fields and woods in the sweet, pure air. Occasionally, there were short tasks that were unpleasant. For example, thrashing was dusty and dirty work, especially the thrashing of barley and clover-seed. This work was the more dusty because it was done in large barns instead of in the open field from the stacks, where the wind blew the dust away. Working in barley, produces an itching of the skin quite as distressing as a bad case of eczema.

Plowing stony or stumpy ground or hard clay was also rather unpleasant; but all these things were only for a few days out of the whole year. The greater part of the work was rather agreeable to any boy who was not constitutionally lazy—"born tired."

Boy vs. Man

One thing I remember which every father of boys on a farm would do well to bear in mind. That was, that a boy from twelve to seventeen is often put into a group of men to work; pride makes him try to keep up his end, and perhaps he is even egged on by the jeers of men who should know better; while his strength is not equal to doing a man's work. So, he very naturally gets disgusted with farm work. My own dislike of the farm was greatest when I was twelve, but it grew less with each successive year as my strength increased. During my last year on the farm, at seventeen, I liked the work so well that I should probably not have given it up had it not been that the trustees of a village school insisted on my taking charge of their school. Once in the work of teaching, I liked it so well that I remained in it for fourteen years, until I went to medical college.

Social Life—Conversation

Why did I like farm work? First and chief was the variety. Social life may have been at times monotonous, but the work was ever varying. But, even social life had a side, then, which compares favorably with the customs of today. The art of conversation was cultivated to a degree that has been largely supplanted in our day by pleasures less wholesome if more exciting. We could profitably set on foot a movement to restore the lost art of conversation.

The long winter evenings and Sunday afternoons all the year round were utilized by both, old and young, for unceremonious visiting. It was the custom to include in these visits a meal, for which housekeepers were always prepared. On Sundays, after the sermon, it was quite proper and customary to go to a neighbor's house for dinner, even without a special invitation. In winter, when the sleighing was good, it would be hard to imagine anything more enjoyable than a merry sleighride to a friend's house, even at a considerable distance, arriving in time for supper, and a good visit during the long evening. At these visits, conversation was the principal amusement and, if we compare those occasions with the social functions of today, I think we must admit that conversation has become almost a lost art. I shall always look back with pleasure and gratitude to the instructive and entertaining conversations of my elders to which I listened when we had "visitors." At the present day, systematic intellectual conversation has been rather crowded off the boards by games, dancing, and the movies. I do not mean to say that these things, in moderation, are a waste of time; but, when they monopolize our recreation time, our rising generation is losing something valuable in neglecting the art of real conversation.

Winter School

As stated, our work was varied and seldom monotonous. It was lightest in winter. As soon as the regular farm work was over, in November or December, we went to school every day, in the old stone school house, where we absorbed education with a zest that city children seldom feel. This was because we were not sated; we knew that our studies were limited to a few months in winter, and we attacked them eagerly. And I am convinced that, in spite of the drawbacks under which we labored, the real education, mind training, and self-reliance which we acquired will compare favorably with the work of the graded schools of today, so far as practical results are concerned.

Mornings and evenings, we did the "chores," which consisted chiefly in feeding and caring for the live stock, and keeping the house supplied with firewood. At the end of winter, we got up an "exhibition" in the school house, consisting of "speaking pieces," dialogs, and music. The weeks of preparation for this even gave us more solid pleasure than anything resembling it in after life that I can remember. Then the school "examination" was held, when the parents and friends came to see us perform in class and on the blackboard, and try our best to be a credit to our teacher.

When April came and farm work began, the older pupils left the school, which remained open a month or two longer for the younger children.

Maple Sugar Making

Our first work was usually maple sugar making, and, if city boys and girls know of any work that is better fun and more like play, I should like to learn the name of it. Tapping the trees, collecting the sap, keeping the kettles boiling day and night, catching delicious naps on straw and blankets in the "sugar shanty" and finally "sugaring off"—all these things put new meaning into the words "joy" and "happiness." Then there was the sweet smell of the crisp, bracing air. The woods have a fragrance that varies with the time of year; but it is never sweeter nor more intoxicating than it is in these bright spring days in the "sugar bush."

As we tramped about gathering the sap, we had time to see whether the fish had begun to "run" in the streams, and to welcome the returning birds. When we heard the cheerful note of "pee wee," we knew that spring had really come and brought our little feathered friends from the Southland.

Appetizing Odors

And, what is that peculiar odor in the air, like smoke and yet different—sweeter and more fragrant, and somehow making one hungry? Ah! it is a whiff from the smoke house, where delicious hams and bacon are being given the finishing touch in real beechwood smoke—a smoke that gives the cured meat a flavor that nothing else can, not even hickory bark. The latter imparts a good flavor to hams, but not quite as fine as beechwood. Ham and bacon cured with salt and beechwood smoke (and no other preservatives) are so far superior to the stockyards product that many city people have no idea how delicious

these meats can be. Cured in this old-fashioned farm manner, they will keep all summer, forming a palatable and wholesome diet for farm workers, superior to fresh meats.

On the Quarter-deck of a Harrow

When the sugar boiling is over and the frost out of the ground, the fields are prepared for the sowing of spring grain,—barley, oats, and spring wheat. The boy may be too young to do much plowing, but harrowing requires but little skill or strength. So, many a boy has his ambition to drive a team gratified by being appointed commander-in-chief of a harrow, to which is attached a safe and sedate pair of old horses that have gotten over the days of their wild oats. The boy feels a distinct augmentation of his dignity; to drive a team, is a step towards manhood and has been an ambition with him for several years.

When the grain is sown, he helps clean out the ditches that are to provide drainage when heavy rains come. This ditching is not heavy work, and there is a fragrant smell about the warm spring earth.

The Barefoot Boy

Next, comes corn planting towards the end of May, and the pleasant work of getting the ground ready is made more so by the fact that now the boy can go barefoot. How light he feels when he first "takes 'em off!" Running seems like flying. Today, corn planting, like many other kinds of work, is done by machinery; but, a generation ago, a boy dropped the corn for each "hill" and a man with a hoe covered it up. Dropping corn for a neighbor was one of the few ways of earning a little pocket money for the boys of fifty years ago.

Crow—Friend or Foe

Corn planting over, we resorted to various devices to keep the crows from pulling up the sprouting grain, varying from the "scarecrow" of old clothes, stuffed with straw, to pieces of bright tin flashing in the sun, strings across the field to give the black marauders the suspicion of a trap. We used to regard the crow as a thief pure and simple. Today, we know that his destruction of insects and worms more than compensates for the toll he takes from the cornfield.

A variety of work presses now. The orchards need trimming, and, while this requires older heads and hands, the boy carries away the branches and piles them, and later, when they are dried, some evening he has a grand sight and smell are being regaled by the myriad blossoms and even the ear is delighted with the steady hum of the busy bees.

bonfire. While the trimming is going on, both

Bee-Trees

Occasionally, these industrious little insects cause some excitement by swarming, and then comes the fun and interest of hiving them, so as to keep them from wandering away to some neighbor or to a hollow tree in the woods. When they do the latter, then the boy looks eagerly forward to October, when the adventure of cutting the "bee-tree" and confiscating the store of honey makes a bit of interest and excitement akin to that of successful hunting or fishing. I remember cutting one tree, on a frosty October morning, that yielded us a washtub full of honey, to say nothing of a few stings and swollen faces. Perhaps, at some future time, I shall describe in detail the finding and cutting of a "bee-tree."

Forest Tints

When working in the fields, in April or May, if the boy stops a minute for a breathing space, as he lifts his eyes, they rest upon the pink and white of the orchards in bloom or upon the delicate green of the forest just bursting into leaf. In autumn, the forests are grand in their crimson and gold of oaks and maples, mingled with the sombre green of pines and spruces. But I know of no more delicate tints in nature than the soft green of a forest in spring when buds are unfolding into leaves, especially a beech forest. The foliage is so thick as to produce a twilight among the leafy arcades and, seen from a distance, a beech forest about the first of June is a rest and a delight to the eye.

Wild Flowers

A tramp through the woods reveals innumerable varieties of wild flowers: trailing arbutus, adder's tongue, violets, trilliums, and many others. Who would not love to study botany under these circumstances?

This description covers but a small part of the farm boy's year. Some of his most interesting and enjoyable work comes later in the season, and I may touch upon it in a subsequent article.

[*To be continued.*]

2920 Warren Ave.

Good Medicine

Let us learn as we go, but not forget what we know

Conducted by GEORGE H. CANDLER.

Come On: The Fishing Is Fine!

HELP WANTED

Wanted: A girl for the summer months,
A girl who can really play;
Who can take the wheel of a Steed of Steel
And point her up Woodland way.

A girl who can hike, a girl who can fish,
A girl who can cast a dry fly;
Or, if she can't do it, will gamely stick to it
And win out, or want to know why.

A girl who can chum, a girl who can "bum,"
A girl who can sleep on the ground;
With a sense of direction, a raimproof complexion,
And a temper that's perfectly sound.

A girl who can whistle, a girl who can sing
And laugh when the tent springs a leak;
Who can swing a good paddle or ride a horse straddle,
And powder her nose once a week.

A girl who loves moonlight, and isn't afraid
Of small creatures which roam in the night;
Who can strike a match man-style and go swimmin' Pan-style—
That is, if there's no one in sight.

Wanted: A girl for the summer months,
One qualified, please will apply;
Then perhaps in cold weather, we'll still trail together,
And only "break camp" when we die!

(This "ad" will not appear again!)

MOST grave and reverend Seigneurs, what (if anything) do you know about fish? Excluding ichthyosis, 01. morrhuæ and the common, or domestic variety of sucker, are you on familiar terms with the piscine tribe? Do you know why fish *are?* Have you, by personal observation of the "recent subject," satisfied yourself that a vulgar pickerel is not a great northern pike and that a big-mouth bass, in June, will put up as good a fight as a pink-eye—provided that he has been taken in equally cold water? Do you realize that a Beneficent Providence made fish to be caught and that tired Professional Gentlemen were created, subsequently, for the express purpose of catching them? Therefore, to fail to do so is to fly directly in the face of aforesaid Providence. Hence, if you are not tired enough now to fulfill your destiny, get that way during the next few days and hie thee speedily to a fishery (Go to a good one!) and fish while the fishing is good.

Too soon, alas! will come full summer
And casting then is on the hummer!

And who, once he has cast for the belligerent bass in June, wants to snake him—or any fish—out of deep water at eventide in August with a ten-foot pole? Of course, even still-fishing is better than not to fish at all, just as a mule race is better than *no* excitement. But, if you would fish as the gods would have you, cast a thin line with a light lure or live bait and strike 'em while they're on top. When you're doing that with a five-ounce rod and a sweet-thumbing reel, you enter paradise and don't care a whoop whether insulin proves a specific for diabetes, or a low- or high-protein diet is indicated in acidosis. At such a time, the Naprapath, Chiropractor, Omnipath and Xtian Scientist (to say nothing of other animalculæ) enter not at all into your scheme of things—all you are thinking about is, when you are going to connect with a fellow who will go (on certified scales) just a few ounces better than that whopper your side-kick caught yesterday. Yep! When you go fishin', you're just a he-man in heaven—hob-nobbing with helgramites, hungry as a hell-hender and as radiant as Helios himself. (Any other "hells" connected with fishing will be distinctly of your own production. And, one must admit, a line does break occasionally or the "biggest one of the season" will throw the hook just as the net is slipped under him. Naturally that is—— well, it *does* justify a *mild* expression of disgust, and you feel so much better after relieving yourself right out loud—you can't do that even

in your professional life.) Oh, come on, let's go! I know exactly the right place and just how to get the big ones. Are you coming along or are you not? *Oui? Allons!*

It is dawn in the north Wisconsin woods—a mid-June dawn! We have, overnight, in some almost miraculous manner, left "the world, the flesh and the devil" behind and awaken to find ourselves in a new universe where even to breathe is beatific. Singing softly through the heavy, deep-green pines and hemlocks comes a balsam-perfumed breeze from the west, cool and with a tang to it like a dry champagne. In it one senses life, growing things, wide spaces and cleanliness. Inhaling it deeply, the brain clears, the eye brightens and the soul takes new hope. One lives again! The tent-flap is thrown open and the eye beholds a mystery—old as the world but ever new and indescribable—the birth of Day in Nature's scenic and scented sanctuary. In front of us, lapping rhythmically upon a shallow, shelving white sand beach, the grey-blue water of the lake begins to sparkle to amethyst as the golden fire arising in the east gains intensity. Already the tips of the silver birches upon the further shore are assuming a more vivid green, as the first slanting rays thrust through their tossing leaves, and each minute the white boles and delicate tracery of branches stand out more clearly. Along the margin of the lake, a blue heron flaps heavily and, just ahead of and below him, scurries a kingfisher, taking, with sudden dip, his toll from the small fish in the shallows. On a nearby tree, a great red-headed woodpecker seeking his breakfast drums industriously and, somewhere in the thicket, a song sparrow sings Matins. The hymn is taken up here, there, everywhere and, as the last narrow bands of floating clouds turn first red, then melt to fleecy wisps of vapor, the sun thrusts his rim well over the ridges and our *woods* day has begun.

Twenty feet from shore, a hungry bass leaps clear of the water to snap up a particularly enticing May-fly and, if one watches closely, he will see areas of disturbance about the old fallen and submerged treetops, where "minnies" and (I am sorry to say) even the bass fry are being harried by the valiant but cannibalistic black masters of the lake. If we are to catch Mr. Small-mouth in a striking mood, this day, we had better take our morning dip, cook our matutinal coffee and flapjacks and get into the canoes in jig time. As we run down and plunge into the cold water, we hear an axe ring and, even by the time we are hastening back to the tent, a thin column of smoke goes up into the sky and the never-to-be-forgotten fragrance of a young birch and pinewood fire enchants our nostrils. As we dress, we can hear the fire crackling merrily and the guides clinking tinware and pass. In ten minutes more, we are squatted (we have no tables here) along a convenient log, eating sizzling flapjacks and bacon and swallowing, scalding hot, such coffee as never was brewed elsewhere on this earth! *Absotively,* Doctor Gallagher, if you've never tasted coffee made with spring water over a birch fire in the North Woods, you don't even know what coffee is: *Posolutely,* Doctor Sheehan!—And, now, full as young goats, we make sacrifice to Lady Nicotine (any old briar will do, but don't smoke local "Sweet Tip Top" in it) and throw our tackle together. Here is what *I'm* fishing with—try it if you haven't found something better. I never could. A Heddon, five-foot, two-piece split bamboo rod, with cork handle and grip above reel seat, full agate guides and tip. A Talbot "meteor" reel, a light, hard-braided, bass-casting line and a twin Hildebrandt ("Slim Eli") spinner, mounted with a single Kendal sneck hook. Above the spinner, is the smallest swivelled sinker obtainable. Were I casting a live frog or "plug," this sinker would be omitted. But we happen to have a supply of good-size mud minnows (*Not* shiners), and one needs a little more weight than the spinner and bait together afford. My friend is a "plug fiend" and is casting a top-water lure—Basserino, the "boss-sereno" he affectionately terms the thing.

We slide out the canoes and start, he going north around the shore and I south. When twenty-five or thirty feet outside the old sunken logs and treetops, the guide steadies the canoe and I begin to cast, working first the near end of the cover and gradually casting inwards towards the shore. Every likely spot along a log should be worked and the extreme butt never overlooked. I have, not once but scores of times, seen one man fish a shore with poor results and another fisherman follow immediately behind him and make a killing. Be delicate, take time and don't try to make tournament casts; these are the rules which count here. Another essential is, to keep the tip of your rod *down* till you get a strike, then raise it and hook your fish *pronto*—or quicker. If you are fishing with a frog or for big-mouth (green) bass, be more deliberate. Indeed, under certain circumstances,

let him "run with the bait"—to turn it—before you strike.

Here, however, we have clear water and the small-mouth (pink-eye) to deal with, and he can be just a little quicker than you are—if you don't watch out. Anyhow, bing! there comes No. 1. He takes the minnow just as the first of the slender twin spoons spins clear of the water alongside a log end which just clears the surface. And, by the Apostle Peter, he *takes* it! One twist of the wrist hooks him fairly and the fight is on. This is no tender stripling but an old warrior who knows that safety lies *under* that log. Does he get there? He does **not** and, feeling the curb, he flings himself two feet into the air and tries to shake loose the irritating tether. Down he goes and off—this time lakewards but, within ten feet, he "breaks" again and, swifter than thought, doubles for shore. Now is the time your reel means more than its original cost a hundred times. It *must* run like velvet—you *must* get in line on the instant and you *must* feel that it will run out without any jamming or even an appreciable resistance. Do not let anyone induce you to use your "click" or "drag" when playing a bass—at least not till he is coming to net—rely on your *thumb* to control the line. My fish has headed down and probably is, for the instant, cogitating as to his next move. I tighten up on him—rod-tip well down—and again he is off but his run is shorter and, despite nursing, he will not break water again. Slowly he is reeled in and the guide gets ready to slip the landing net under him as I draw him to the stern-end of the canoe. At the critical moment, a sharp twitch of the line warns me that he is not ready to quit yet and, as the edge of the net sinks towards him, he is off again, this time making the longest run of his series. Again he is reeled up, and now he comes to top of water well over on his side and in a few seconds is in the net—and the boat. His neck is swiftly broken and the scales show him to be two ounces short of three pounds. Not a really **big** bass but a nice, clean-cut, beautiful fellow to whom you involuntarily pay homage as he lies still in death.

His eyes like red rubies still glimmer
'Gainst the emerald green of the grass.

Side-Kick, a few rods away, shouts congratulations and ads "Basserinos' turn next"! And it was so, for, just as I hooked No. 2, he brought his No. 1 into the boat. And it went mine one ounce better. **But**, it could not break water, for the triple hook on the "plug" had snagged him between the eye and the gills. That, of course, does not always happen; but, with a single hook, your fish has a better chance to play the game squarely and, if you fish for bass (or trout), you should *fish fair*. *They* fight that way!

By ten o'clock, the breeze died down, the sun was *hot* and the fish ceased feeding. But by that time, Basserino had seven and I had nine. So, we were content. We lunched on fresh bass filet, boiled rice, "dough-god" (hot from the pan), canned white Queen Anne cherries (kept cold in the spring) and more coffee (the amount of real coffee a man in the woods can consume is astonishing). Then we smoked one, two or three pipes (maybe more, I never count 'em) and, after a half-hour's snooze under a balsam tree, headed for another lake where the wall-eyes (pike perch) dwell.

Were it not for the fact that I want you *all* to go a-fishin'— really fishin'—I would **not** tell you how many pike we took before sunset that day. Moreover, you may not believe me when I solemnly swear that we threw back every fish which didn't look like two pounds.

As it was, we had so many that we were ashamed to look each other in the face. So, we looked at the fish. Then we thought of our poor, sweating, sophisticated city friends and dependants and sent one guide in to a point where he could box and ship them, properly iced. "And," he assured us on his return, "I sent all the law allows." His conscience is elastic.

We also had pike for supper—and more for breakfast. It may mean something to the initiated to add that most of these pike were "yellow bellies", taken around a weed bed at the mouth of a thorofare which led into another lake. Every one (including a five-pound "old settler" who was snaked out from around a "dead-head" in nine feet of water) was taken on the single hook, double Hildebrandt spinner (mud minnow bait) worked along about a foot above bottom. The guide paddles very slowly over the ground once you have "found bottom" and reeled up a trifle. If he makes any very appreciable headway or if a wind drives you at all, you must, of course, let out more line, or you will, when in motion, be fishing too high. For such fishing, a ¼-oz. sinker is desirable. Use swivels. Don't attach too large a hook—a Kendal sneck, No. 9 or 10, does the trick perfectly. At times, when the water is rough and along feed shores, wall-eyes can be taken by casting with

a top-water bait; but the real way to get them (if they are there at all) is as has been briefly described. It cost me lots of time and a considerable sum of money to discover even these simple facts, and I assure you they're worth knowing.

A light, short rod, light green or neutral colored line and single or double spinner with one ¼-oz. sinker and single hook baited with a live minnow for *pike*. Fish slowly along sand-banks or the shore early in the season and off weed-beds, bars or in deep holes as the water grows warmer. It has been my experience that there is little to be done with pike from about 11 a. m. till 4 p. m. On windy, dark, or rainy days, the rule does not apply quite so well.

Another point: Do not hook your minnow through the lip (or lips) alone. It is quite possible for even the best fisherman to so lose ten minnows before he lands one pike. Pass the hook through the mouth and out through the gill, then turn the point in and transfix the fish at about the middle of the body—not so far down that he is curled up on the shank of the hook but so that he hangs straight. The hook should penetrate the fleshy part of the minnow, from side to side—*not* his belly.

So hooked, you may be reasonably certain of hooking nine out of ten fish which strike. You will find, however, that, one day, pike strike viciously and, the next, will lie close to bottom and suck in the tail of the minnow, just holding on and refusing to gorge it. Then you must tease them by withdrawing the bait a few inches and then letting it go again. As soon as a real pull is felt, twitch the end of your rod up, and *that* fish is yours. Always keep a taut line and the tip of the rod within an inch or so of the water. If you carelessly trail with a long line and your bait half-way between the surface and the bottom, you'll get more pickerel than pike. And from pickerel, Good Lord deliver me! Unless, of course, he is a "real big one." Such a one gives you a short run for the money but gets even by making your tackle and boat stink and by being no particular good subsequently in the culinary department. However, some people like him very much.

All of this hasn't anything to do with musky fishing—or brook trout—and both of these aristocrats can be caught around in the territory where the bass and pike are. Take *what* you want *when* you like—if the conditions are not right for one, they will be for another. But, for the love of Michael Angelo—to say nothing of Angelina Aiken—go up to the place I've told you of and **Fish!**

If you can't get started just right, S. O. S. me and I'll give *you* a route map, only, don't put everyone else wise, or this happy casting ground, too, will be "fished out," *vitement*. If it so happens that you can take the old bus and run in, take it—you'll hit twenty-eleven trout streams *en route*. And, brother, off the beaten track (where you have to worm your way in between stumps) is where the bass lakes are. If *your* bus is a Ford or a Chevrolet, or even the *old* Maxwell, so much the better. Of course, the new, very swagger "good" Max. shouldn't be shoved through logging roads. At least, I don't recommend such extravagance, though, "pussonally," I *have* snaked a big seven-passenger where some Fords would fear to tread! And, then, again, a Lizzie has gone where *I* just couldn't make it. But I went in her—and we got the fish! Go thou and do likewise. Here's luck!

P. S.—Do It Now!

What do you care? This darned old earth
Was full of woe before your birth,
And yet good men have wed and died,
An' found it had a sunny side.
They was glad they came and glad they stayed,
Cheer up! Don't be afraid!

The Hamiltonian (Chicago).

Let's Talk it Over

Active-Principle Materia Medica

With Physiological Effects and Therapeutic Suggestions

By WM. T. THACKERAY, M. D., Fowlerton, Texas

[*Continued from June Issue, p.* 434]

Iodoform

(Triiodomethane.) Iodide of Formyl.

Physiological effects:—Chiefly an antiseptic and local anesthetic. In small doses, it lowers the functional activity of the nerve centers; voluntary movement is next affected, anesthesia is present to some extent; the reflex functions of the spinal cord are depressed; the excitability of the nerve trunks to external stimulation is lessened, and also muscular contractibility. Regarding the circulation, it slows and strengthens the ventricular contractions, slightly elevating the arterial pressure. Respiration and temperature rest about normal. In the gastrointestinal canal, it occasionally provokes nausea. Finally, the salivary, biliary and intestinal secretions are increased. In large doses, it is a toxic the effects of which are chiefly expended on the brain and nerve centers, whether used internally or topically.

Therapeutics:—It is useful in glycosuria; valvular diseases with hypertrophic incompetency; tuberculosis (pulmonary, meningeal, etc.). Also in bronchitis, pulmonary gangrene, foul breath, syphilis, rheumatism and glandular engorgements.

Dosage:—1/64 gr. to 1/6 gr. In tuberculosis (pulmonary), from 10 to 20 granules of 1/64 grain daily. In syphilis, 1/64 gr. six to ten times daily. While Iodoform has been looked upon as an ideal Iodine carrier for internal use, the Calx Iodata or ("Calcidin") will be found to answer a better purpose.

Irisoid

Oleoresin from the rhizome of the Iris Versicolor (Blue Flag).

Physiological effects: — Powerful hepatic stimulant, producing less intestinal irritation than Podophyllin, but greater purgation than Euonymoid. Also a decided stimulant to the intestinal muscles and glands.

Therapeutics: — Highly recommended in jaundice of malarial or catarrhal origin, torpid liver, cirrhosis of the liver, dropsy or intestinal disorders. In hepatic torpor evidenced by jaundiced condition of the skin and clay-colored stools, this drug should be used to its full effect.

Dosage:—1/12 gr. to 1/8 gr., three or four times daily, before meals and at bedtime.

Iron Arsenate

Salt resulting from chemical combination of Arsenous Acid with Iron Oxide.

Physiological action: — Restorative, even when there is irritability of the primæ viæ. Under its influence, appetite is improved, digestion and assimilation ameliorated, the red globules of the blood become more numerous and better oxidized; finally, nerve and muscular force are increased.

Therapeutics:—Useful in anemia, chlorosis, in convalescence after attacks of hemophilia, in leucorrhea and certain skin affections in lymphatic subjects.

Dosage:—1/64 gr. to 1/6 gr. for children, 1/64 gr. three times daily after meals; for adults, 1/6 gr. at the same periods.

Iron Phosphate

Salt in which Iron Oxide is chemically combined with Phosphoric Acid.

Physiological action:—Hematinic analogous to the other chalybeates, a useful reconstructive, particularly indicated where the conjoined use of phosphorus and iron is desired. Does not disturb the stomach.

Therapeutics:—Used particularly in amenorrhea when due to a weakened condition of the blood.

Dosage:—1/64 gr. to 1/6 grain. For children, 1/64 gr., three or four times daily; for adults, 1/6 gr. at same intervals.

Iron Valerate

A salt in which Iron Oxide is chemically combined with Hydrovaleric acid.

Physiological effects:—Antispasmodic and nervine.

Therapeutics:—Useful in hysteria and where an antispasmodic combined with tonic action is desired.

Dosage:—1/6 gr. every fifteen to thirty minutes for nervous or psychic derangements.

Jalapoid

Resin of Exogonium purga (Jalap).

Physiological action:—Powerful intestinal irritant, the action of which is chiefly exerted on the mucous membrane, so that, if the membrane is coated with a thick covering of mucus, the purgative action is comparatively mild and painless; whereas, in opposite conditions there is griping. In addition to this, there are other effects, probably on the nervous system, which are imperfectly known.

Therapeutics:—A valuable hydragog cathartic and diuretic. Indicated in habitual constipation from deficient glandular secretions; of service in some form of dropsy, cerebral hyperemia, etc., and where intestinal parasites are present.

Dosage:—1/6 gr. every one to three hours to effect in adults.

As the action of this drug varies in different individuals, there is no guide but, "dose enough." It will be found desirable to use the combination of Calomel, Podophyllin and Bilein with it, followed by a Saline.

Juglandoid

Resin from the inner bark of Juglans Cinerea (Butternut).

Physiological action:—Slight hepatic stimulant, vermifuge, depurative and antisyphilitic.

Therapeutics:—Useful in scrofulous affections and in a relaxed condition of the system.

Dosage:—1/64 gr., one to three before meals. Irisoid and Xanthoxyloid are useful adjuvants.

Koussein

Alkaloid from the female inflorescence of Brayera Anthelmintica (Kousso).

Physiological action:—Exercises a toxic influence on all forms of cestoda, or tape worm, hence regarded as a true tæniacide; but, having no cathartic properties, a subsequent aperient is required to promote the expulsion of the entozoa. It does not produce, usually, any physiological effects, but may be followed by some degree of gastric irritation. The association of Pelletierine with it renders the mixture a more certain tænifuge.

Dosage:—1/6 gr. two to four granules, fasting, with two granules of Pelletierine tannate, followed one hour after with a large dose of castor oil.

Leptandroid

Resinoid from the root of Leptandrin Virginica (Culver's root).

Physiological action: — Hepatic stimulant, promoting the flow of bile without irritating the bowels.

Therapeutics:—Useful in torpid liver and atonic dyspepsia.

Dosage:—1/6 gr. every two hours to effect in all diseases where it is necessary to stimulate the biliary secretion. The association of Podophyllin enhances its action.

Lithia Water Tablets

Carbonate of Lithia in soluble form.

Physiological action:—Neutralizes the acids of the stomach and renders the urine alkaline.

Therapeutics:—Useful in gouty and calcareous affections of the urinary organs. Also indicated in pyrosis, acid dyspepsia and in acute and chronic rheumatism.

Dosage:—5 gr., one or two dissolved in a glass of water, three times a day.

Lithium Benzoate

A salt prepared by a combination of Lithia with Benzoic Acid.

Physiological effects:—Powerful neutralizer of the gastric juice and alkalinizer of the urine.

Therapeutics:—Same as indicated in Lithia water tablets, but with antiseptic properties.

Dosage:—1 to 2 1/2 grains every four hours. In acidemic conditions, 1/2 to 1 grain with Colchicine 1/64 gr. every three or four hours with large draughts of water.

Lobeline Sulphate

A salt of an alkaloid, from Lobelia inflata (Indian Tobacco).

Physiological action:—In small doses, promotes the action of the sweat, salivary and mucous glands; slows the heart's action; lessens the movements of respiration, and relaxes spasm. In large doses, produces emesis, preceded and followed by intense prostration. Its action is analogous to that of tobacco.

Therapeutics:—Useful chiefly in acute and chronic affections of the respiratory organs of children, as an expectorant and antispasmodic. Recommended in croup, eclampsia, sunstroke and spasmodic conditions generally.

Dosage:—1/64 gr., one to three every half to two hours; cautiously, to effect full relaxation.

Lycopoid

Resinoid from Lycopus Virginicus (Bugle Weed).

Physiological action: — Expectorant and sedative, acting through the sympathetic nerves. Controls passive hemorrhage; therefore useful in hemoptysis. Of value in epilepsy due to irritation of nerve centers, and in various cardiac troubles marked by irregular heart action with dyspnea.

Dosage:—1/6 gr., one to four, three to six

times daily with Cactoid 1/64 gr. if indicated by irregular heart action.

Magnesium Peroxide

A mixture of Magnesium peroxide and Magnesium oxide (equivalent to 4.25 percent available oxygen).

Physiological effects:—Promptly efficacious in meteorism, flatulence and other disorders due to abnormal fermentation of the stomach contents.

Therapeutics:—Indicated in gastric catarrh and hemorrhage arising from gastric ulcer or cancer. Its antiseptic properties makes it of great service in typhoid, dysentery, diarrhea arising from hyperacidity, etc. In uric-acid diathesis, it gives excellent results; also in anemia and chlorosis.

Dosage:—5 grs. every three hours with a little water. In pyorrhea and other affections of the buccal cavity, 5 grs. may be dissolved slowly in the mouth.

Magnesium Sulphate

The salt resulting from the chemical action of sulphuric acid upon Magnesium oxide.

Nature has installed in all parts of our earth mineral springs, the majority of which depend upon Magnesium sulphate for their laxative and purgative properties and which latter forms one of the most useful of all remedial agents in the treatment of disease.

Physiological action:—Hydragog cathartic, acting on the large intestines by osmosis.

Therapeutics:—While there are some drugs that are harmful as habit forming, this cannot be applied to Magnesium sulphate whose daily use has been and is being taught in connection with active-principle medication.

Burggraeve, the master and teacher of this practice, not only taught its use, but practiced it in his own person, calling this practice *"le bain du ventre,"* or "bath of the bowels," and he said further: "Through the daily use of the intestinal bath by means of the dehydrated magnesium sulphate, I have been able to continue my work, more or less valuable to the world, as my critics see it, with undiminished cerebral activity until I have passed my ninetieth year."

The writer has had a like experience, dating from 1879 when he first adopted the "habit."

I look upon it that the greatest good that the Doctor can offer his patrons is, to teach them how to use Magnesium sulphate daily, and to see that they follow his teaching. It will keep them in better physical and mental condition and aid him in treating any abnormal trouble with which they may be attacked.

In connection with the use of Magnesium sulphate, I advise the dehydrated salt as being least objectionable to the taste, and The Abbott Laboratories and other manufacturers have met this necessity with the effervescent product, which is decidedly pleasant and effective.

Magnesium sulphate is not only an effective cleanser of the bowels from intestinal toxins, but, as an application to the surface of the body in many affections, it proves itself a most efficient remedy, notably in acute idiopathic erysipelas. In my student days, this was taught by the late Prof. Saml. D. Gross, and my first experience with the disease was during my service as a Medical Officer on duty in Dakota, in the winter of 1872-73, where there was an epidemic of the disease among the soldiers with whom I served. The treatment was: The application of a saturated solution of the magnesium salt to the diseased surface and small doses of the same internally as a refrigerating draft. This last was given in lemonade. In all cases, the cure was rapid and the men returned to duty after two or three days in the hospital. I will add that I have continued this treatment of acute idiopathic erysipelas during over fifty years of practice and without a single failure.

In many skin diseases, the magnesium-sulphate bath proves an excellent adjunct to other treatment. It also affords great relief as a compress in all inflammatory conditions of the respiratory tract, and may be used either hot or cold as preferred or indicated.

Manganese Arsenate

Manganese oxide in chemical combination with arsenic acid.

Physiological effects:—Hematinic, alterative and nutritive tonic.

Therapeutics:—Useful in anemia, chlorosis, leucocythemia and in leucorrhea, amenorrhea, etc. Can be combined, with excellent results, with strychnine and iron arsenate and with the combination of Nuclein with the phosphates of iron and strychnine.

Dosage:—1/64 to 1/6 grain: the smaller dose for children, after meals.

Mercuric Chloride

(Corrosive sublimate)

Salt from the combination of two atoms of chlorine and one of mercury.

Physiological effects:—Powerful antiseptic and escharotic. The physiological effects of the bichloride of mercury are similar to those of the mild chloride (Calomel) of the same base. It is a corrosive poison and, in large doses, provokes an acute inflammation of the

tissues from contact as well as by absorption.

Therapeutics:—Useful in syphilis, especially in the early stages; in acute dysentery and diarrhea, also in ulcer of the stomach. Topically it is advantageous in cases where the disease depends on, or is maintained by, the presence of microorganisms. The average proportion of the antiseptic solution of bichloride of mercury is one per thousand of distilled water.

Dosage:—1/128 grain, one every three or four hours, to effect. Use cautiously.

Mercuric Cyanide

Physiological effects:—Alterative, antiseptic, tonic.

Therapeutics:—Useful in diphtheria, membranous croup and syphilis.

Dosage:—1/128 gr., one or more up to a maximum daily dose of 1 grain given cautiously and preferably in solution.

Mercuric Iodide

(Biniodide, red) ($Hg. I_2$)

Physiological effects: — Alterative, germicidal, antiseptic, antisyphilitic and emmenagog.

Therapeutics:—Useful in syphilis, especially secondary; syphilitic rheumatism, lupus and other chronic dermatoses.

Dosage:—1/12 grain to 1/64 grain of the smaller dosage. One every two hours. Effect should be cautiously watched.

[*To be continued.*]

DR. BRYCE'S TALK

Hoist by His Own Petard

It is a real pleasure to most of us with any human nature in our make-up to see the designing plotter caught in his own trap. I always enjoyed the Bible account of the hanging of Haman on the scaffold that he had built for his enemy, and the downfall of the mighty Goliath when little David rocked him to sleep. The case I am relating describes simply the unsuccessful effort of an older physician to ruin the future of an unfortunate young doctor at the very outset of his career.

There lived, many years ago, on a good street, a middle aged physician who enjoyed a good practice and was in comfortable circumstances. We will call him Dr. T. Living in his block, was a young man whose widowed mother rather overindulged him in spending money from her limited means. The young fellow decided to study medicine and "read medicine" under me. After attending the two short sessions then required at the local college, he graduated.

He was from every angle a remarkable young fellow and at once seemed to become the especial object of Dr. T.'s observation and unfriendly criticism. He was red headed, freckle faced, very slim and tall, as smart as a brier, a good talker, drank whisky enough to keep him sprightly and gay, and the thing that almost ran Dr. T. mad was the fact that young Dr. "Charlie" G. opened a fine office within a few doors of him, dressed in heavy style—long Prince Albert blue-cloth coat, white vest, patent-leather shoes and an unusually tall silk beaver hat, with appropriate brilliant tie and kid gloves of proper color and fineness. In other words, he was a swell of the first order. To finish his triumph as a competitor, he equipped himself with the very latest in equine and vehicular transportation facilities.

In those days, many physicians walked to see their patients in the cities, those better off indulged in horseback travel or possessed horse and buggy, but the very acme of professional elegance and style in visiting one's patients was the top buggy and a pair of nice horses. Dr. T. drove two and had a top buggy, but he soon realized that he was not "the only pebble on the beach"; for, within a few days after Dr. G. swung out his shingle, a pair of beautiful sorrels hitched to one of Brewster's stylish top buggies stood in front of Dr. G.'s office champing their bits and restlessly pawing the earth.

This was before the days of the automobile, and the hypodermic syringe was just growing into popularity. Unfortunately, our young friend was a very handy man with his hypodermics when patients were in pain. He was also frequently a little "high up" from occasional potations of Spts. Frumenti, although usually under perfect control.

For a while, he cut a wide swath and took a lot of practice from right under the older doctor's nose, but the old fellow had learned that all things come to those who wait. One day, poor "Charlie" took just a little too much and shot his hypodermic, a little too heavily loaded, into a lady sufferer, leaving her snoozing sweetly while he and a friend took a drive behind those flashy sorrels; ten miles on the Brooke Turnpike. In the meantime, the fact that his sleeping patient was growing slightly stertorous, alarmed the family and not being able to find Dr. G., they summoned Dr. T. who, seeing that she was suffering from an overdose of morphine which, as he learned from her sister, had been administered by his hated rival, promptly shot a big dose of apomorphine hypodermically into her system.

When poor young Dr. G. returned from his

drive, somewhat confused from his own overcharge of his favorite drink, he was astounded and quickly sobered to learn that his patient had died during his absence of a few hours and a summons had been issued for his appearance at the coroner's court, next day. He had heard that he was suspected of having caused her death by administering an overdose of morphine, while under the influence of whisky. He believed that Dr. T.'s opportunity had come and that his evidence was going to ruin him. The morning papers had a full account of the case with the presumption that he had killed the woman, all of which was read before the convening of the coroner's court.

My young protégé sought me early next morning and told me that he felt sure that they would saddle the patient's death on him and arrest him upon the verdict of the coroner's jury. He requested me to be present and "stand by" to render all possible assistance to him in his distress. I told him to have his lawyer present, and we three would follow the testimony and try to see who killed the patient.

When we entered the court room, Dr. T. was on hand and came up promptly, shook hands with us all, and added that he was sorry for the unfortunate position Dr. G. was in. There was one thing about my young friend that could always be counted upon; and that was, he was no fool and true blue when courage was demanded. On this particular occasion, there was no smell of whisky upon his breath, his nerves were steady and his voice measured when he looked the doctor squarely in his eyes and asked him:

"What the hell do you mean by that remark?"

A prompt apology followed. The young doctor walked forward and we sat down together.

It is wonderful what a word spoken at the psychological moment is worth. While Dr. G.'s remarks were not overelegant, they certainly created a decidedly favorable impression for him in the crowded court room.

As the case proceeded, Dr. T. stated that he was called to see the woman after Dr. G. had administered morphine, that he found her fully under its influence and in a serious condition, and that he gave her a hypodermic of apomorphine. But, in spite of all efforts, she died. He was so eager to give damaging testimony that he forgot that the woman had no morphine in her stomach to throw up, and that the administration of another deadly poison was malpractice and contributed to intensifying the action of what she already had in her system.

Not until my young friend's lawyer asked him why he gave apomorphine in this case, did it dawn upon him that he had trapped himself and in all probability ensured the patient's death. It was almost painful to notice him squirm and twist and turn alternately red and pale as he finally laid his blunder on his excitement over the woman's urgent symptoms.

The coroner and Dr. T.'s friends patched up some non-convicting verdict that let him out and, of course, turned my young friend loose, who, as he passed by the much chagrined doctor, said in a very audible voice to his enemy, "Maybe you know who killed Cock Robin?"

It was a close call for the young doctor and a good lesson for them both. The elder man learned that, being overzealous in trying to undo a competitor or an enemy, might actually help him; and the younger doctor profited by the knowledge that he had been his own worst enemy.

Over-Treatment in Urethritis

I am satisfied that many of our cases of chronic urethritis, or socalled gleet, drift into this condition of chronicity from aggressive and continuous treatment, under the one idea that they are kept up by the presence of the gonococcus and that the fight must be for its destruction rather than for the reduction of simple inflammation by measures appropriate to all inflammations, regardless of their etiology.

I have been very forcibly reminded of this frequent mistake by a recent case coming under my care about two months ago. The patient was a vigorous Armenian, about twenty-eight, who said, he wanted me to cure him of the "claps," which he had had for over two years. Examination showed a drop or two of pus at the meatus and a burning, more or less intense, upon voiding the urine. Sexual excitement or coitus would usually start up a pretty good flow, or a "new case," as he termed it and sent him back to a doctor.

Under these conditions, this man had been more or less continuously under all manners of treatment for more than two years. He had run the gauntlet of the abortive, or quick cure, attempts, then injections, bladder washings, retrojections, sounds, prostatic massage and milkings, and finally vaccines, but with no earthly benefit or any show of cure. He

was worrying over a supposedly serious trouble, earnestly desired a *quick* cure, was credulous, and had a bank account. With this before me, I was not surprised that he had been *continuously* treated, nor that he was suffering from these frequent assaults upon his helpless urethra.

If ever a man needed a good honest talk, this poor fellow did; and I tried to gain his confidence. I explained to him that, regardless of the specific organism giving him his urethritis, it should be treated on general principles like an inflammation from any other cause; that rest and sedation favored recovery from inflammatory troubles; and he had hurried his physicians and made them do much that they would ordinarily have left to time to accomplish. In this way, he had gotten a chronically inflamed and sensitive urethra, and, now, the most rational thing to do was, *to do nothing*; in plain English, to allow himself to get well.

These patients are always anxious to be cured quickly and feel that, unless the doctor is constantly doing something for them, they are losing time with ever lessening chances of recovery. In this way, the physician too often yields his better judgment and tries, first one thing and then another, actually keeping up the trouble, until the patient changes *him* off for another doctor, and then the same old game of overtreatment goes on.

Fortunately, my patient took a reasonable view of his case and agreed to follow a Fabian policy of letting the enemy wear itself out, as it were, with a modicum of very gentle medication. Finding that he had neither stricture nor ulcer, one or both of which I suspected, I put him on a mild injection of Ext. Witchhazel with boric acid, until his few morning drops disappeared, which was within ten days. I then went back to an old favorite of fifty years ago, which was an emulsion of Balsam Copaiva, Spts. Lavender Co., Fld. Ext. Cubebs, and Fld. Ext. Ergot. I withdrew the injection and kept him on this most unpleasant mixture for six weeks. It permeated his entire make-up and kept his genitourinary tract entirely coated with this balsamic and soothing output, so that he was entirely relieved of all smarting or tenderness upon urinating. Of course, I made him avoid all stimulating foods and condiments, forbade his even thinking of a woman, and did my best to take his "courage" down with sexual sedatives. Today, I consider him well; but I shall keep him on probation for two months. If he shows no more symptoms of trouble, I shall tell him that he can safely make the girl who has waited so long for him his wife; and, the sooner the better.

So well satisfied am I of the great value of rest and general sedation in the treatment of gonorrhea, that I now resort to depleting measures and, when it is possible, put my acute cases to bed until active symptoms begin to subside. Of course, most of our patients cannot do this, for fear of exposure, and have to be treated "on the wing." For the same reason, they cannot confine themselves to the ideal dietary. I have so frequently seen cases of this trouble get well without a single germicidal or other injection, and only under mild and soothing diuretics, rest and light diet, that I rely as much on *six weeks* of strict obedience to these details as I do to more active treatment.

I do not undervalue the role of the gonococcus, nor the helpfulness of the silver salts in checking its activities, but I do not wish to overestimate either. *In medio* is a more satisfactory route. I will add this last caution: Never promise or *attempt* to abort any case of gonorrhea. Never set any limit within which you will promise to cure a case.

For, that belongs to the unknowable, as the following case demonstrates, at the same time introducing a rather novel remedy.

A middle-aged man came to me, many years ago, with an acute case of urethritis. He was a foundryman, plethoric, active and a full eater. I told him to do as I ordered and I expected to have him well in a few weeks. He said, "I don't know, doctor, this trouble is mighty hard to cure on me."

The man was a good patient and, I believe, followed my instructions literally.

After about six weeks he had lost considerable flesh under restricted diet, salines liberally used and balsams *ad nauseam,* but he had severe *ardor urinæ,* and was running a line of pus by day and walking the floor by night with a mighty curve in his hose pipe.

I got busy from then, discarded my tender and conciliatory tactics and injected that urethra strenuously and alternatingly with nitrate of silver, sulphate of zinc, sulphate of copper, red wine, aq. ext. opii, and everything else I could think of, but without any moderation in his symptoms. Internally, I had filled him with copaiva, cubebs, sandalwood oil, turpentine, logwood, hydrastis, alkalines, bromides, buchu, witchhazel, etc.

Six long, painful months had passed for *him and me,* and I candidly told him he would have to leave it to *time* to cure him.

"Then you think you cannot cure me?" he asked.

"Not *soon*," I said.

He looked at me blankly and said: "Then I 'spose I can stop everything and eat and drink as I please, if *time* is all."

We parted company, both of us mutually disgusted with that case. Some two months afterwards, I saw the old one-horse police patrol backed up to the street curbing, and three burly policemen endeavoring to get an unruly drunk into the rear of the old wagon. The fellow was my old gonorrheic, but in full flesh, strong as a mule, and giving a good account of himself in the struggle.

As I got opposite the busy quartet, he seemed to recognize me and, ducking his head under an officer's arm, opened up a passage for a talk with me. "Shay, you, doc, you ain't wurf a dam to cure the claps. I'll tell you whush cure me, rum and honey.—"

C. A. Bryce.

516 N. 10th St., Richmond, Va.

BAREFOOT AND CRAWLING CURE

How can we account for the fact that more children die in the wealthy districts than in the slums? One reason is, that the poverty-stricken parents in the latter cannot buy shoes and stockings enough for all their children to wear continually and, hence, many of them are barefoot much of the time and are consequently immune from diphtheria, a disease that exacts a high death-toll from children warmly shod and heavily muffled with clothing.

In a very thoughtful and really invaluable article on diphtheria, in the *Medical Times* (New York) some time ago, Dr. Thomas related some very significant points from his experience as physician with the missionaries in Turkey-in-Asia, during 18 years. He said: "When I first went out there, I was often very much pained at the sight of the native children with their naked feet, blue with cold; but as the years went on, and I found that these barefooted urchins never had severe sore throats or diphtheria, while the shod and stockinged children of the missionaries were frequent sufferers from the disease, I grew entirely reconciled to the condition and urged the parents among our missionaries to adopt the custom."

The writer's five children were never shod or stockinged indoors, winter or summer, and they went barefooted out-of-doors much of the time in summer, until 10 or 12 years old. Moreover, none of them but has run around the house time and again in a foot of snow, barefoot and barelegged, just for a lark. "Catch cold?" never once. But, coddled and muffled children are constant sufferers from the disease.

Another point of great importance; our babies were placed right side up at birth, namely, on the belly, so that they had the same opportunity for physical development, on all fours, like kittens, and they were creeping about the house at seven to ten weeks old, creeping away from the grave, so to say. This plan has worked satisfactorily in hundreds of families under my teaching. The common practice of teaching babies to walk is altogether wrong; we should keep them on all fours as long as possible. They'll "find their legs" all too soon through their natural ambition to imitate the movements of their elders. We teach adults to creep, to counteract the down-sagging of the kidneys and all the internal organs due to man's abnormal upright position. Here we have the cause of "floating kidney," prolapsus uteri, hernia, colitis (mistakenly called appendicitis), etc., etc.

When all the suggestions herein come to be appreciated and acted upon universally, there will be few deaths among infants and young children, and the general mortality will be markedly lessened.

All bed-rock students of anatomy, physiology and hygiene know that man is by nature a naked and four-legged animal, the skin being a true breathing organ, its millions of blood-vessels gasping for air under the lightest of drapery and completely smothered under many folds of clothing as commonly worn, meaning a deficiency of oxygen the "mighty scavenger of the vital economy"; hence, the tendency to "colds", influenza and pneumonia.

All our internal organs are, in character and position, just like those of the four-legged animals with whom there is no down-sagging, the organs lying flat on the floor so to say. It is for us a matter of counteracting (in so far as possible) the dropping down of our inwards, by frequently assuming the attitude of the monkey and the kangaroo, instead of remaining forever upright.

Charles E. Page.

Boston, Mass.

[In connection with Doctor Page's interesting suggestions, the reader is referred to an editorial appearing on page 465 of this issue of Clinical Medicine.—Ed.]

COMMERCIALISM IN MEDICINE

To the old practitioner, nothing seems more deplorable than the growing and almost ever-present spirit, or thirst for mere money which exists.

While we may deplore this feeling in its exaggeration when seen in other pursuits, in medicine it seems as though it should not have place—at least, it should not be primary; it should not neutralize in a way, the most beneficent of all arts when practiced with a due sense of our high calling. To me, specialism has not a few drawbacks, but this, the former one, is the most grievous. In all specialties, men become very narrow-minded, above all, the most successful one, as regards lucre and practice. They are very busy and constantly going through the same routine, day after day. Unfortunately, this routine work does not develop in them a broadminded, elevated manhood.

It is at least unbecoming in them, in thought or deed, to ignore or decry the old practitioner. They say and circulate the view, frequently, that he is a bygone number and of a time when true service did not prevail. Alas, for such statement! He it was who knew the body in all its phases; he it was who, also, knew the sick man's feelings and sympathies, his needs and wishes. Knowing them all, as he did, he could minister to them. Thus, he brought untold, almost miraculous relief, at times, to the sufferer. Also, he developed within himself that fineness of thought which develops and adorns highest character.

How could such a man grovel in the dirt, so to speak, and first of all have in mind, what pay am I to get? Could, or would, mere money be the answer? Never! He might pass many long, dreary hours by the bedside in cases of great pain and with almost hopeless outlook, except for the divine Comforter. He might go through storm and stress of fatigue and anxiety. But, his God-like spirit did not fail him. He was there, ever animated by the spirit of service, to do his best by his fellow man. And, did he not accomplish it? To my way of thinking, he certainly did.

This new-found science, this product of the laboratory, does not make real, all-around practitioners of medicine; it rapidly stunts and belittles them. And, now, the outside world is beginning to realize it and to know how much they have lost in the passing of the true, beloved physician.

Will he come back again? Surely he will—and just so soon as men return to the simple life in belief and doing. This must and shall be, because God rules and He rules not in either socalled modernists or fundamentalists, but in the heartfelt religion, which simply follows what our blessed Savior said and did. Churches, forms, ceremonies, they are a very feeble and imperfect evidence of what He showed to all men. Let us emphasize and show it, in everything we do.

Beverley Robinson.

New York, (Memorial Day).

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[To us, the "old practitioner" always has been an impressive rather than a negligible figure; an example to be emulated rather than one that has been outlived and overshadowed by modern acquisitions. The old family doctor, as Ian MacLaren depicted him, as times of storm and stress and of necessity developed him in our country, will not come back, because he never went away. He is still with us, to be found here and there; no matter what moderns, proud of their superior science, may claim.

Doctor Robinson is right. The people are finding out that they want physicians, practitioners of the true science and of the Art of Medicine, men and women who give personal, individual service to men and women and children, rather than doctors of medicine (and philosophy, perhaps) indulging in interesting and fascinating (to them) observations on "clinical cases". Let us remember that honest, personal, individual Service counts practically. That is what develops and ripens the physician.

Not that we would decry the scientists. They are needed. It is to them that we look for the means of progress. But, purely speculative, investigative experimentation has no place in the day-by-day practice of medicine in all its branches. The *practice* is interested only in that which we know, as far as it is knowable. Science is concerned in what may be found out; also it may find explanations for those things that we know empirically but for which reasons are lacking.

Are we heretical? Would we lower the standard of medical practice? By no means. What we insist upon is, that the practice of medicine is concerned with individuals, with personalities, with John and Sue. They want more than cold, calculating science. They are more than just sick hearts or lungs or stomachs or eyes or ears. They feel and think and worry and fret; and they claim the right to strive for health, wealth and happi-

ness. Mere mathematical formulas will not aid them. The personal factor often will do more than "treatment" based on purely scientific laws.—Ed.]

GERMAN MEDICINE AND GERMAN PHYSICIANS

[A few weeks ago, a young friend of ours, who made a *Studienreise* to Germany, sent us his impression of conditions as he observed them during his stay in Berlin. From his letters, we have excerpted a portion which will be interesting to all physicians. We hope to secure a more complete report from Doctor Abramson, after his return to this country, and shall offer it to our readers as promptly as may be.*

The article from Professor Hamburger, which has been promised us, will be highly welcome and may afford the occasion for a special babies' and children's number of Clinical Medicine. Such a special number ought to meet with the approval of our readers. However, we will let our correspondent take the floor.—Ed.]

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The second day after my arrival to Berlin, I was already registered in the pediatric clinic of Dr. Czerny, in the Charité hospital.

Professor Czerny himself is a wonderful teacher and clinician. His teaching abilities equal those of the late Dr. Murphy, of Chicago. In Berlin, and perhaps all over the world, he is considered the father of modern pediatrics. He wrote an excellent book on pediatrics which passed through many editions and is now not to be bought anywhere. He has many assistants who really conduct the postgraduate courses in pediatrics. The fees for these monthly courses are considerably high, $12.00 for Americans. For nationalists of other countries, the price is set according to the value of their money in comparison with the American dollar.

The American dollar, by the way, is the standard not only in money matters but in every other thing that can be bought or sold. It is also the ruling passion of almost every German inhabitant to acquire dollars, and it makes no difference what means have to be applied in order to obtain them. In a true Jesuitic position, believing that the end justifies the means, the average German, from the porter up to the professor, is on the chase after the almighty dollar in a far superior measure to that of which we Americans were always accused. It is painful to see how the waiter, butcher, grocer or hotel keeper is trying to *do* you and cheat you of a few hundred marks. At first, the Americans are a very easy prey to the open robberies that the German tradesman is putting over you; but, we soon find out that we are so brazenly cheated that the Germans consider us foolish "Michels" and we resent this more than the loss of a few thousand marks.

Life, i. e., the cost of living, is very high for the Germans; it would be comparatively cheap for the Americans, if we paid the same prices that the Germans do. This, however, is not the case. Here is an illustration: I was asked, as monthly rent for a room, 250,000 marks. I refused to pay so much and offered one-half of the sum asked. My offer was rejected, but, at this very time, a German came and got the room for 6,000 marks a month.

Examples of such discrimination between natives and *Ausslænder* are a daily occurrence. This discrimination becomes especially annoying when you recognize in it another expression of *hate* towards the stranger. Of course, it acts as a boomerang to the German people themselves; for, every stranger returning to his respective home entertains very few fond recollections of his stay in Germany. I am almost positive that the war was lost for Germany partly on that account. The world at large had no sympathy for that country.

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Outside of being unfriendly, the Germans are after all a wonderful people, virile, active and thorough. I judge it from the work that is done now in the medical field.

Gigantic strides are made in all branches of medicine and, in many respects, we are half a century behind them. I am arranging with Dr. Hamburger, the *Oberarzt* of the Charité Kinder-Klinic for an article for your journal. [Thanks. We hope that it may materialize soon.—Ed.]

The description of the *status economicus* of the German physician is a theme unto itself. The American physician is a millionaire in comparison with the members of the German medical profession. Most of the physicians in Berlin can not work enough to pay their rent. The average fee for consultation is so low that they can not even buy half a pound of butter for it. How they get along, goodness only knows. Verily, the "Herr Doktor" is worse off than the street cleaner.

No wonder they are such well-read men. They have nothing to do but read and visit

*As we go to press, we learn that the doctor has arrived in New York.

clinics. You find them almost in any clinic, following the professor. They don't even go home for dinner. They carry their *Butterbrot* with them and nibble at it whenever they get hungry. Since imitation is one of the methods of learning, the visiting doctors from all the corners of the globe do likewise, and it is nothing uncommon to see a row of doctors eating quickly their sandwiches while the professor speaks about the differential diagnosis of tapeworm. Observing the doctors as they chew their food, one may take them for the best living examples of the hunger symptoms of tapeworm.

One gets the impression that the German physician is an eternal student and is more interested in the speculative phase of medicine than in the practice of it. No wonder then that therapeutic success is found only in patients treated at the clinics. That the patient privately treated does not get along so well, is admitted both by the physician and the laity. A few weeks later, I hope, I'll be able to write with greater precision about the conditions prevailing in this country.

The present abnormal situation makes it difficult to distinguish between the real customs and those imposed upon the present conditions.

Everything is topsy-turvy now. I only hope that the situation will soon change for the better, for the German people certainly do pay for the sins of their Kaiser and their military leaders.

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I spent two months in the Czerny Clinic and also took some work with Ludwig E. Myer, the associate of Finkelstein. Both, Czerny and Finkelstein, are considered the pillars of modern pediatrics. They are certainly real masters and it pays to get acquainted with their teachings.

Of the two, Czerny is the better teacher, since he has been doing it for more than thirty years. Doctor Myer is a better teacher than Finkelstein and he is, therefore, chosen as the best representative of the Finkelstein school in preference to Finkelstein himself.

In addition to the clinical work under the above-mentioned *Herr Professors,* I also take a course in pathology, macroscopic and microscopic, and I assure you that this course alone is worth the trip.

During the lecture hours, we have the opportunity to examine between 8 and 10 autopsied bodies, Prof. Zeilin pointing out the pathology and explaining the mechanism of the symptomatology presented by these patients, as recorded in their *Anamnese.*

This course is taken exclusively by Americans, and we all agree that such counsel is not to be gotten in America.

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Speaking of Americans, I must tell you that we have recently organized a medical association similar to the one existing in Vienna. We hope thereby to attract the American physician who comes abroad to study. Berlin has wonderful facilities for P.-G. work and, some believe, even far superior to those of Vienna.

The trouble was that the newcomers didn't know where to go and to whom to apply for information. Now, we have a permanent secretary who knows medical Berlin well, since he is himself an M. D., and anyone can find, with his aid, any course he desires to take. We hope to enlarge the membership and make the A. M. A. of Berlin a worth-while society.

The medical world is stirred by the news that Wassermann found a specific reaction for tuberculosis, similar to his reaction for lues. How much it will further the progress in the treatment of tuberculosis, remains to be seen. It is noteworthy that most of the clinicians do not believe in the efficacy of tuberculin or in any other specific remedy for tuberculosis. Rather do they rely upon the non-specific protein therapy and use a great deal of plain horse-serum or bovine serum.

There are many new therapeutic measures advocated in Germany of which I never heard before. They are all in my notebook and I hope to verify their use in my own practice.

B. W. Abramson.

Berlin, Germany.

THE STANDARDIZATION OF BIOLOGICAL STAINS

On March 2, at the Chemists' Club in New York City, there was held a meeting of the Executive Committee of the Commission on Standardization of Biological Stains. Beside the members of this Committee, the meeting was also attended by C. H. Herty to represent the Synthetic Organic Chemical Manufacturers Association, and by F. P. Garvan and W. F. Keohan to represent the Chemical Foundation. The meeting is a matter of interest to every member of the medical profession.

All physicians realize the need of dyes for staining specimens in the laboratory diagnosis and investigation of disease. It is not perhaps so generally realized that, in order to give constant results, the dyes used for this purpose must be of very precise chemical com-

position; and yet it is a very difficult matter for either the chemist or the biologist to control their composition. Before the war, all stains were imported from a single German firm. This firm did not manufacture stains, but bought textile dyes in batches of considerable size, and, after some preliminary testing, bottled them and sold them under its own name to the biological laboratories of the world.

When the war broke out, the American laboratory was deprived of this foreign source of stains. After the pre-war stocks already on hand had been given out, much difficulty was experienced in getting stains of the requisite quality. The Society of American Bacteriologists began an investigation of American-made dyes that were being sold as biological stains. The results of this investigation were so promising that it proved possible to secure the assistance of the National Research Council, through whose agency a cooperative investigation was arranged among the members of several national societies. Recently, the work has been organized under a special commission, independent of the Research Council but still representing the different national societies that were cooperating in the earlier work.

At the executive committee meeting of this Commision, just held, the very encouraging results of the work were reported. It was shown that already the stains available in America are in practically all cases as good as, and sometimes better than, the best of the pre-war stains. The most important fact brought out at this meeting was that, while the pre-war stains were standardized only in an empirical way, because large batches were bought without the exact composition of the dye, they must now be standardized on the basis of pure chemicals.

The reason for this is, that it has been proved that, in some cases, the impurities present in the pre-war stains were very necessary. Sometimes, these impurities were other dyes and at other times supposedly inert materials, like dextrin. In all such cases, the task plainly before the Commission is, to find out what the impurity is which was responsible for the good staining qualities of the impure product. Then, in the future, the users of stains must demand that these impurities be present, not as impurities, but as intentionally added ingredients. When this has been done and the products are labeled and used accordingly, the American stains will become standardized in a true sense of the term.

Very shortly, the Commission will begin issuing certification of definite batches of stain that it has found satisfactory. These stains will be put on the market under a special label bearing the name of the Commission. Users of stains must be on the lookout for products bearing this label.

Buyers of stains must also watch for spurious imitations of this label put out by unreliable concerns. Any form of certification appearing on a stain label not bearing the name of the Commission is merely a certification by the manufacturer or dealer himself, and as such has no value.

The Chemical Foundation has very kindly agreed to support the work of the Commission financially.

EMPTYING THE STOMACH IN SICK HEADACHE

I desired, but failed to incorporate, in my article on manual pressure (CLIN. MED., June, p. 447), as a means of relieving sick-headaches, mention of the fact that, in cases where the spasmodic closure of the pylorus muscle is a reflex from a diseased or irritable gall-bladder, it may be possible that pressure of the hand, as detailed in the article mentioned, may prove unable to force retained stomach contents into the bowel; the spasm persisting. In these cases, it will be necessary to reinforce the above-named method by the application of heat, as from a hot water bag, over the gall-bladder. This heat should be kept up as long as necessary to entirely relieve the headache; which usually is only a short time.

J. A. DUNGAN.

Greeley, Colorado.

AMONG THE SOUTH-AMERICAN INDIANS

Have just seen a three-year-old child with many sores on all parts of body, from head to foot, caused by bites of *cockroaches*. The parents have a good little farm, but said that it was very difficult to purchase a mosquito net. Stingy, I think.

Am mailing a fruit said to be a good purgative. A man living three hours' walk from here took a dose on Wednesday; suffered colic and diarrhea till Saturday p. m. At daybreak Sunday, I gave a remedy. Monday noon, he was O. K. I left for home. [The package was lost in the mail.—ED.]

Said to be used by removing shell. To about one-half cup of boiling water, take fruit in

right hand, insert in water and, for a child, make one circle around cup; for youth, two circles; and for adults, three. This man must have made more than three or, maybe, he used the *left* hand.

Smallpox appeared here about July 10. Nobody seems to fear it more than measles. Some use medicine, others none. Nobody says anything about vaccination or quarantine. Nobody tries to avoid it or to keep children away from it. Can't be very bad with some. In the same house in which I live, a six-year-old boy was well broken out and I saw a three-year-old sister playing in bed with him.

Later.—The boy recovered. His skin sloughed in patches like a snake; he is now big, fat, and enjoying life. Sister came down in due time. Made quick recovery. Only four deaths, all among the very poor, with scarcely any attention—none medical.

Competing with Dentistry.—A man told me that, at some point low down in the Caqueta valley, a Jesuit priest was visiting a tribe of Indians (name not given). When he was taken with a severe toothache, having nothing to relieve it and having suffered much in the past, he told the tribal medicine man that he would be glad to be rid of all his teeth. The medicine man said, he would give him relief. He left him alone until he could go into the forest and gather a handful of leaves. He gave the priest one, telling him to chew it slowly until it was very fine, then to spit it out. He did so, and the offending molar ceased from troubling him. The medicine man gave him another leaf with the same instructions. Upon spitting it out, the tooth went also. He gave him others, one at a time and, with each ejected leaf, went a diseased tooth—no sound ones. But the grand surprise came when the priest awoke from a long peaceful sleep and found that each place vacated by a diseased tooth was filled by another as sound and beautiful as those of his childhood. He offered immense rewards for the secret, but the medicine man refused all, saying it could never be revealed to white men.

Ask your dental man to give you his opinion of this.

An Unusual Use for Eggs and Toilet Powder.—Early, one forenoon, a man came hurriedly to me and asked "what is good to stop bleeding? A woman has been cut and we have filled the cut with powdered lime, but the blood comes in jumps."

I asked if she could walk; he said, "Yes." Then I told him that I was the best thing to stop bleeding. He soon brought her, 7 or 8 other women accompanying them. While I was dressing the wound, she was about to faint. We took her from the chair and laid her on the floor. Another woman got an egg from the kitchen, and, breaking the large end of the shell, stirred the contents and gave it to patient. She did not faint.

The wound began 3 inches above the annular ligament in the left forearm, extending downward, ending at the middle of the root of the thumb nail, severing the radial artery. I readily checked the hemorrhage, cleaned out the lime, brought the wound together with adhesive, applied all the "Dermal Antiseptic" I had. I dressed the wound again the next day, using a U. S.-made toilet powder.

This patient came for 4 or 5 days and, if there was any pus, it was invisible.

The wound was inflicted by the husband on his wife during an argument about some trivial things. It cost him a $10.00 fine. You may say, that was nothing, but, if you figure daily wages 20c (twenty cents) it will require some labor to earn it.

GEO. MOTT.

San Vicente Caqueta, Colombia.

THE REASON WHY!

From some editorial remarks, on page 241, of the April issue of our favorite periodical, announcing Dr. C. A. Bryce's contributions, of which we have just had an illustrious example, I may infer that many readers are inclined in favor of the practice of birth control which I have "criticized so absolutely" in my March contribution. My article was chiefly intended to give those who are interested some much needed information regarding federal maternity work, which is at least as important in the government Sanitary[1] Service as prophylactic work in contagious diseases is in the U. S. Public Health service, for instance the regulations governing the employment of persons affected with infectious diseases, and physical examination of "food handlers," etc., stricter attention to which is at present being enjoined on health departments, and by them upon the physicians. Considering what abominable, unsanitary conditions are permitted and like methods practised by the "birth control" doctors, it is very much in the interest of public health that the truth should be known. The facts are mostly known to gynecologists, and it is quite conceivable, I was nearly going to say pardonable, that editors of medical journals should be much impressed by theories

[1] I wish I could say "Educational."

which undoubtedly speak aloud in favor of birth control; because these editors don't practise medicine.

While with a limited experience, I was, at first, also on the side of those most scrupulous men who recommended proper methods of prevention of conception, in the belief that, under the control of competent specialists, only ideal conditions and most exact methods must always prevail. My position then was made clear in a footnote to my article in *American Medicine*, quoted on page 199 of last month's issue.[2]

Gradually I learned the true facts which taught me how the evil consequences outweigh the good intentions.

Therefore, the motive for my attitude declining "birth control" is the fruit of much observation of what has been done in the past, and its results. My experience has shown that it is not in the best interest of the patients to give them an opportunity to follow such unsavory practice. If we consent to it in spite of the fact that the patient is injured, it is in disregard of one of the fundamental principles of the therapeutic art, known since ancient times and, by our predecessors clothed briefly in the two words: *nil nocere*, do nothing that might harm your patient.

This is the second and, really, more essential part of the motive why I recommend caution in allowing practising physicians too much independence in their treatment of patients for the prevention of conception.

The collective experience with the methods of such practice and its direct and remote results is again under lively discussion, especially in the state of New York, since the efforts to pass a law, amending the penal code relative to the furnishing by physicians of information and articles for the prevention of conception, have been brought to fruition, a bill to that effect having been placed before the N. Y. State Legislature.

Now, what is the tendency of that experience?

When we exclude the apathetic type, we find that all the patients, no matter what methods they employ, complain to their physicians of unpleasant consequences and untoward symptoms from their indulging in "birth control." On investigation, I, for one, have not yet found one woman of nice sensibilities who was satisfied under the circumstances, even when her husband assumed the anticonceptional burden. Of course, instances of dyspareunia are not considered here. Nervous disorders, mostly sexual neurasthenia, are always the consequence. Serious anatomic lesions are by no means rare, and infections carried upward through the cervical canal (the uterine cavity and the cervix in its upper part are sterile, but not immune), produce parametritis, salpingitis, sometimes pelveoperitonitis.

In my article "Remarks on Voluntary Sterility,"[3] I mentioned the most noteworthy schemes which I had observed women to employ, as for instance the dangerous trick, well known to the European women, of pushing violin strings up the cervix, much after the method by which we examine a tight urethral stricture, beginning with one filamental bougie and adding gradually more.

In the same article, I gave a list of the gynecologic disorders which had come under my observation, as a consequence of the practice which I condemn. I quote from page 297:

"I do not consider myself competent to give definite advice, nor is there any intention of suggesting any procedure recommending any method or implement, but rather of pointing out the unsatisfactory and often harmful features of the customary methods employed by the devotées of voluntary sterility. My article may arouse some physician to seek knowledge and to appreciate his formerly neglected duty when patients consult him regarding means of preventing conception, and he will be compelled to consider very earnestly a question which he used to answer with indifference. No one can deny that it is not necessarily the woman's fault when misapplied articles for the prevention of conception have left the woman either a nervous wreck or her womb and vagina a veritable sewage tank, but many physicians, who have never seriously directed their thought to the actual danger of the frequent interference with a most important and complicated physiologic function, remain ignorant of the pathologic possibilities of the defeated consummation of the sexual act and do not learn in what destruction the misuse of contrivances *"sterilitatis causa"* can result, unless they catch a woman *"flagrante delicto."*

This sums up fairly well the opinion which I had then formed in 1914, after about seven years of observation.

It is naturally always a source of satisfaction to find our own observations and conclusions corroborated in the literature. Only today, I found that no less an authority than Robert A. Gibbons, agrees essentially with my own experience in a very complete mono-

[2] However, the very title of my article (note the italics): "The Problem of Race Suicide, a problem rather of *National Hygiene* and propbylaxis than political economy," (*American Medicine*, New York, July 1909) indicates that I had even then, as early as 1909, recognized the danger to the American women, and that it ought to become a matter of public health concern.

[3] E. H. Pirkner, Remarks on Voluntary Sterility. *Urol. and Cutan. Review*, 18:295, June, 1914.

graph.[4] Under the title: "Induced Sterility," he says:

"This is an interesting division and requires, in giving advice, much thoughtful consideration, especially at the present time, when so many desire matrimony and, at the same time, wish to avoid the responsibilities, expenses and anxieties which in so many cases follow marriage resulting in childbirth. In 'Sterility with Reference to the State' I have pointed out the steady fall of the birth rate, and the 'Gospel of Comfort' (in England) as an explanation, and have mentioned what some consider to be the most vital question of the moment—whether birth control should be left to the actual checks of war, famine and pestilence, or to *preventive checks rationally and intelligently applied* with a view to preventing conception. There are some who believe that the former must invariably continue unless the latter are adopted. Doubtless, these modern checks, or socalled Malthusian methods, are attributed to Malthus by those who have never read his works, etc. . . . he defines moral restraint as restraint from or postponement of marriage from prudential reasons with conduct strictly moral while unmarried.

Now, here, I only want to point out that those methods, which are in many instances adopted after marriage with the view of preventing conception only for a few years, and possibly even for a few months, may cause permanent sterility. I have been consulted by patients who have been perfectly sound as far as the pelvic organs were concerned, whose husbands have been examined and found normal, and who, having adopted preventives for some years after marriage, have discontinued them in the hope of conception following, only to be grievously disappointed. I have also known many who, having had one child, have adopted preventives against conception for several years, and then, wishing to have a second child, have found it impossible. In women, the interference with physiological functions may bring about such changes in the ovaries as to lead to temporary or permanent sterility. Whether the cause be due to arrested development of the Graafian follicles or to some subtle changes in the ovum, it is impossible to say with the knowledge at present at our command. We know that, in some animals, ovulation does not take place without previous copulation, and this leads me to say, as the result of my own experience in questioning patients who have consulted me with reference to sterility, that the sexual appetite has a great deal to do with conception.

We know that absence of sexual feeling has, in many cases, not to be considered, for conception occurs without it; but, as we have learned that in the rabbit the follicles do not rupture unless copulation takes place, and we know that there are many women who can state exactly the date for calculating their time of confinement from the amount of sexual feeling produced by a certain coitus, we may be certain that all those factors leading up to sexual pleasure have a most important bearing in dealing with some cases of sterility. Therefore, *anything which interferes with* what is *purely* a *physiological* process, may *lead to trouble.* Nature is a most implacable enemy and resents any interference with her laws. (All this agrees sometimes almost verbally with what I have said in my previous writings. —Pirkner.) There are some women who, undoubtedly, have congenital absence of the sexual centre; and, in my opinion, whatever takes place with reference to preventives in them, has no effect upon their health nor upon their ovaries; yet, ovulation takes place, as well as conception, in a certain percentage of them. But, in the case of women of marked sexual feeling, not only may their health suffer; but, in addition, sterility is much more apt to result."

The author then mentions "coitus interruptus" as one of the most frequent causes of neurasthenia for the generally well known reasons. Quoting Max Hühner, he says: "The nervous strain of such a woman, with her unappeased, though stimulated, sexual appetite, finally leads to a condition of nervous irritability, sexual neurasthenia, and hysteria. The totally frigid woman knows nothing of sexual passion, misses nothing; there is therefore no strain on her nervous system, whilst in absence of orgasm the state of affairs is just the reverse."

The author continues:

"I have now seen many marked cases of neurasthenic symptoms which have entirely disappeared when the methods adopted have been discontinued. The point of serious interest is that the use of them is followed in a certain number of cases by temporary and, occasionally, permanent sterility, even after their discontinuance.

"I consider it of importance to call attention to this, for such a result is never thought of by those who contemplate matrimony and, at the same time, checks to conception, because it is generally assumed that, by discontinuing them, children may be produced at will. It is at the present moment not uncommon for young ladies contemplating matrimony to consult their doctors with reference to preventing conception, many believing that their medical advisors can tell them of something infallible. There are no such things.[5] It is therefore only right to say that there is nothing certain but abstinence. It is also only fair to point out that, if certain precautions are taken, sterility may be the result in the end, and when, after some years of married life, a child may be longed for by both, husband and wife, bitter experience proves that children cannot be pro-

[4] Robert A. Gibbons, Sterility in Women. London, Churchill, 1923, pages 143 ff.

[5] E. H. Pirkner, Remarks on Voluntary Sterility (*Urol. and Cutan. Review,* June, 1914, page 297): "When the question arises, 'What are anticonceptional means?' the answer must first consider the possible question, whether there are any which can be called anticonceptional, and then, whether those known and employed by the public for the purpose of preventing conception, really do so. True means that can be relied upon to prevent conception are not in existence. All those commonly known have their limitations."

duced whenever desired." The author finally points out how "whatever interferes with normal sexual intercourse, preventing its physiologic consummation on the part of the wife, always in the long run endangers her health" and adds: "I am certain that the vast majority of men do not know this."

From all this, it must appear that, if left in the hands of the women, and even in those of the physicians at the present stage of still rather low requirements for technical equipment (physical no less than instrumental) and for standard of practice, we must recognize a definite *danger* to the women in birth control. The best specialists who, by the way, do not care to devote their time and skill to such practice, can not control the patients after they have once formed the habit.[6]

So, here is the *danger* also to the *physician,* which is a sufficient reason to sound a warning. The chief reason why the authorities, who have the welfare of the medical profession at heart, must make a united front against B. C., is, to uphold the dignity of that profession and to guard the practising physicians from careless methods which are leading licensed regular men into charlatanism.

Besides motives, I have *reasons* for criticising legalized birth control "absolutely," the most important of which would be, that it is least applicable to the needs of Eugenics for which it was first recommended and is mostly intended.

The law, if it is made to serve a general inclination on part of the present-day woman, hits first of all the American woman and must reflect on the success of the American family. If such measures as legalized birth control aimed at such races as the Orientals or the lower type of Jews and, finally, the Italians who are prolific breeders, there might at least appear to be a National justification of it from the viewpoint of the Yankee. But, that such is not the case, we all know. The nations mentioned refrain from adopting those idiosyncrasies, often nothing more than whims, and some of the bad habits which, originated by high civilization, help to deplete that civilization.

As an illustration in point, a short interpretation of an editorial in the best known Italian daily published in this country, may be interesting to many.[7] This editorial was inspired by a resolution taken expressly against the "propagandists of birth control" by the lodge "Roma Intangibile" no. 215 of the order of "Figli d'Italia" (Sons of Italy) on February 15th, 1923. The resolution, covered with 600 signatures, was sent to the Mayor of Albany, N. Y., who is particularly inimical to the proposed law. It designated the practice as "a menace to all the younger generations, present and future, and as an insult to the laws of God and nature." The editorial begins with the words: "What is born in human nature, cannot be destroyed. . . ." Later it continues: "In the Italian tribe, the patriarchal family sense is inborn. . . . The Italian people occupy a place conspicuous for their big families, blessed with numerous children. Although many of our fathers were laborers," the article says, "they lived in the light of American ideals with a devotion of frankly Italian zeal. The results thereof can be seen today in their sons, who are teachers, lawyers, doctors, engineers, or churchmen of high station. If our fathers had followed the theory of birth control, this country would have lost many important men." . . .[8]

"Instead of controlling births, we ought to exercise proper control *after* birth. The idea forms the nucleus of a program of social life, according to which the girls would learn to become real mothers, the young men prepare themselves earnestly for the grave responsibilities involved in the management of a family. Not the theory of Malthus, which has been proved false, explains the Babel of modern social conditions, but economic difficulties due to maniac (*sic!*) industrialism. Here it is, where the remedy must be applied." So far the editorial (translations mine.—P.)

How disinclined the Italians are to coincide with the "American Sin," as a famous author (whose name I do not now recall) has named this practice of indulging in voluntary sterility, is shown in a most practical way by one of my recent experiences. A young Italian woman, in very moderate circumstances but respectable and well bred, came under my observation two months ago, when she had begun bleeding, one week previously, after she had slipped in her bath and hurt herself, believing herself pregnant. She put herself at once under the care of a physician who assured her after an examination that she was not pregnant. I found her pregnant at least ten weeks. Although she has two beautiful, healthy children and had, between them, a

[6]Three months ago, I made such a patient desist from the habit by giving her my "Remarks on Voluntary Sterility" to read. A young woman, with subserous uterine myoma, but she remains under observation.

[7]Contro il "Birth Control," Editorial, *Progresso Italo-Americano,* New York, 1923, Feb. 18th, First column, front page.

[8]The editorial forgets the Italian women. Many of their young ladies render efficient service in the professions and various responsible callings, or are engaged as experts in different industries.

spontaneous miscarriage, she was desolate as I told her that it was uncertain if she would carry this one to term. I made arrangements for all possible precautions to save her pregnancy and had a trained, conscientious midwife keep her under observation. The bleeding never ceased, however, and, because I began to suspect some complication, I went to see her a few days ago, the midwife having been called on a case out of town. Just ten days ago today, she had been suddenly taken with labor pains and severe hemorrhage (so she thought), that she summoned at once, without informing me, a physician who happened to be in the same house attending to an accident. The first thing which she presented to me at my visit, was a fetus about 4½ months old, preserved in alcohol. Of course, she is keeping it for sentimental reasons. To have it destroyed, would probably be considered a sacrilege by her.

That the Jews are much of the same disposition, many among the practising physicians will confirm.

As an official example to that effect, a notice in the *New York Sunday Times* (April 22nd, 1923), stands out prominently: under the head lines: "Synagogue Forbids Birth Control Talk" (this in bold type).

"Rabbi M., who invited Mrs. Sanger to address forum, resigns."

"Borrows a meeting place."

I quote only a few lines from the text: "The fact that Mrs. Sanger was to talk in the Temple today on birth control only became known when the rabbi sent out a printed announcement to that effect. The president of the board of trustees told the rabbi that, under no consideration, should the forum be used for birth-control propaganda. The doors of Tremont Temple were permanently closed to Mrs. Sanger."

The next shock the Trustees received and the one which precipitated the resignation of the rabbi, was this printed announcement mailed on post cards: "The Rabbi of Tremont Temple announces that, owing to the refusal of the Board of Trustees to permit the holding of the forum this Sunday morning at the T. T., Mrs. Margaret Sanger will speak in the Washington Heights Free Synagogue on the subject, 'The Need of Birth Control in America' Sunday morning, etc.

"Note—The Rabbi of the Tremont Temple alone is responsible for this arrangement."

Mr. M., the president, made the following explanation:

"The reason for our refusing the use of the forum to Mrs. S. was simply, because we object to the auditorium of the synagogue being used for birth control propaganda. . . . these notices arrived yesterday morning. As soon as I learned of them I told him that Mrs. S. could not speak in the Temple."

All this may well make the advisers of the American people stop to think.

When it is today statistically shown by information received from Secretary Hoover's bureau that the birthrate in the United States is declining at the expense of the native-born white race, it is not too soon to ask if anything is being done to keep destructive tendencies, such as birth control, in proper bounds.

I believe that these remarks will show to the readers of the previous two issues of CLINICAL MEDICINE that my attitude is well founded upon careful observations of many years, and is built up on deliberations regarding present biologic and ethical problems. Those with whom my reasons weigh heavily enough, may be led to examine the correctness of my warning that irresponsible sex gratification has been injurious to the women and, when permitted by the physician, must be considered a wrong done to those couples whom it has finally deprived of the anticipated happiness of another child, through permanent sterility, a consequence which neither they nor their physicians had recognized. In many cases, scrutinous and precise questioning of man and wife will prove my claims. On the other hand, if no more ensues as a result of my endeavors, those physicians who consider birth control as necessary disregarding the conservation or rather the reestablishment of the integrity of responsible medical practice, are bound to spread the knowledge of new facts, which they have thus ascertained, together with their own propaganda for Birth Control.

E. H. PIRKNER.

Brooklyn, N. Y.

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[Doctor Pirkner advances some potent arguments against birth control; but these are not sufficient, in our opinion, to call for legislative enactments. Physicians (in consultation, if necessary), should have full liberty to make a decision in the individual case.—ED.]

URINE AS A DIAGNOSTIC AND THERAPEUTIC AGENT*

Little if anything has appeared in medical books or in current medical literature on the all-important subject of urine as a diagnostic and therapeutic agent in the treatment of diseased conditions. We are, however, frequently beset on every hand by new thoughts, new ideas and new realities in the ever increasing desire to mould medical opinion along constructive lines for the amelioration of diseased conditions and the cure of patients under our professional care.

It is the innate desire born of progress which makes the up-to-date physician seek for something that will add laurels to his effort and added success in his professional work. On the other hand, it is well to remember that there are many who will deride something which is new and look upon anything of that nature with many misgivings and even rise to fatuous expressions, particularly so if they know nothing about it except their own *ipse-dixit* statements.

It is only a short time ago that a very prominent physician of Chicago was in my office. I gave vent to my ideas about urine when properly treated, as being of signal advantage in the treatment of diseased states; to which he replied that it could not be of any value as it was the waste product of metabolism.

Such statements cannot be considered other than snap judgment and carry no weight whatsoever with a logical mind. In other words, the employment of urine is using nature's expression of pathological conditions, if it is done in a way that can be utilized by the body. It is a form of isopathy of which Lux, the German surgeon, in 1833, said that "all inoculable diseases contain in their substance of inoculation the remedy appropriate to cure it. Hippocrates taught that the factor which causes a disease is also capable of curing it." Hering said that "the toxins found in the body, properly attenuated, are capable of curing the disease that gives rise to them." Again, such representation is met to greatest advantage in the urinary secretion which drains the body of its toxins and toxic products which can be utilized by the use of the Auto-Bio-Chemic apparatus in making the autogenous product.

The assertion that a patient carries with him the remedy for the curing of his morbid state, cannot, I believe, be successfully refuted. Unfortunately, many physicians fail to take cognizance of this basic underlying principle, while others know nothing about it and will resort to giving drugs equally as hard or harder to eliminate than the pathological condition present.

To illustrate, suppose you have a case which in common parlance is called "a running sore." It is a condition which has in all probability been in existence for years. The patient feels better one time than another. Cleanliness, washes, salves and blood purifiers have been used in vain. The physician has an autogenous vaccine made for him. Some of the symptoms in ultimates are improved, but the effect is short-lived. The treatment does not reach the plane of nature's forces where the disease exists or originated, with the result that a cure is not established and the patient reverts to his old condition. Ointments, liquid preparations and medicines are of little value in such cases. You may suppress the condition by such procedure and thus make the patient believe that he is cured, but it will "tell its tale" on some other part of the body sooner or later. The cause of such a condition is contained in ultimates and is represented by the urinary secretion.

Another example. Let us take a simple case, such as what is ordinarily called a "cold," and note, if you please, the urinary secretion. The urine has a higher specific gravity, a greater amount of total solids, greater acidity and is decidedly more toxic. Nature tries to throw off the toxic waste. There is deficient activity of the kidneys and skin. Very frequently, there is a disturbed condition of the intestinal tract.

The physiological treatment for such condition is a 3x or 6x potency of the dehydrated specimen of the patient's urine given preferably in the form of hypodermic injection. In the course of a few hours, the various emunctories of the body become quite active and the disturbed equilibrium is once more back to a state of normalcy.

This fact is not confined to acute troubles, but the same fundamental principle applies in chronic diseases as well.

The use of urine by a process of dehydration must of necessity have embodied in the finished product the causative factors as well as the toxins, ferments, etc., representing the accessory forces incidental to such diseased state. We then have a picture of the remedy which can act in a curative sense upon the

*See, in this connection, the Editorial appearing on page 467 of this issue.

plane corresponding to the diseased condition. To sum up, the cure of any disease must be by a force equal to the diseased condition and on a plane of its own vibratory activity.

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For the sake of convenience, I divide all diseases into three planes corresponding to their depth of action and the extent to which they become an integral part of the patient's existence.

The first, or superficial, plane corresponds to acute conditions, such as fevers, colds, etc., and is best overcome by the use of the 6x autogenous product. The second, or deep, plane, has to do with diseases which have become more or less entwined with the vital forces of the body and for which higher attenuations are more appropriate. The third, or life, plane corresponds to hereditary taints, scrofulous glands, tuberculous lesions, and old-time conditions due to suppressions by the use of local applications and injections, for which still higher potencies are required to meet the vibratory activity of the diseased state.

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If we assume that life is a vibration and disease a variation in the velocity of the electromagnetic energy, we must come to the conclusion that disease represents something more than the surface expressions so frequently used, such as hyperacidity, disturbance of the hormones, cell salts or the formation of pathogenic bacteria. These, in the great majority of instances, represent an evolution arising from cause and not from the cause itself.

In some cases, however, you may obtain good results by various forms of treatment, particularly so if the pathological actuality is on the superficial side of life's forces.

On the other hand, if the diseased condition represents an integral part of life itself, your chances for eradicating cause must of necessity diminish in proportion as it becomes a oneness with life itself. The cure in such cases must of necessity revert to the equalizing of the vibratory activity of the diseased state which finds its counterpart in the urinary product. In other words, cause is continued into ultimates and ultimates contain cause. This is best exemplified by the potentizing of the dehydrated urine to the plane of the diseased phenomena. When that is done, you meet the diseased variations arising from disturbances of the sympathetic nervous system, cell salts, hormones, enzymes, as well as the factors incidental to the formation of pathogenic bacteria and manifest disturbances as found by chemical and bacteriological examination of the urinary product.

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We are governed on all sides by hereditary influence and environment and our ideas of cure have been handed down to us by a mass of prejudice which finds its counterpart in the desire for some remedy which is extraneous to the body and presents itself in a tangible form rather than to depend upon the cure which nature always provides.

It is this deviation from the normal which produces suppressive processes so frequently witnessed by the medical profession. Who has not seen a case of asthma produced by the suppression of some skin trouble? A case in point, Miss L. K., age 28, court reporter, called on me in reference to a case of asthma which she had for years. Attacks come on when she contracts a cold. Examination of the urine showed much indican and an acidity of 80. On physical examination, I found bronchial breathing and very distinct asthmatic sounds. Examination of the nose showed a posterior hypertrophy of the left lower turbinate body. The removal of the growth seemed to give her relief for a short time. I advised her anent the Auto-Bio-Chemic treatment. She said she was willing to do almost anything, if she could only get well. The 6x potency of the dehydrated urinary product was given to her in the region of the biceps muscle, the following day. This had the effect of bringing out a rash on the middle third of the left tibia. She then informed me that when she was teaching school in Michigan she had a ringworm for which one of the local medical men made an application of some salve, with the effect of curing it. Since this eruption was brought out, she has had no trouble for a period of seven years. The last time I examined the urine, it was negative to indican and normal as to acidity. Countless numbers of cases could be cited in which local applications or internal medicaments have produced suppression of some pathological condition, only to tell its tale in some other part of the body. Truly, we can say that suppression is one thing while cure is another. The autogenous urinary product cures from above down and from within out, and cannot under any circumstances cause a suppression of the diseased state.

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There is little solace in having the urine examined microscopically or chemically when the findings point out that there is Bright's

disease, diabetes or some other pathological condition. It adds a burden, a care to life, that nullifies to a greater or lesser extent the possibility of longevity. It seems more than passing strange how some people will try to postpone an eventuality. Their preconceived ideas anent the diseased condition have not in their belief reached the threshold of danger. Would it not be more logical to use a treatment which brings to the fore any focal infection or rather disturbed phenomena and eliminate it than to wait until such times as the microscope or chemical tests reveal the story too late to rectify? In other words, treat the patient as a whole by the use of the autogenous product and let nature show the fragments. This treatment digs down deeper into life's forces and reveals more to the patient or physician than can possibly be made manifest under any or all laboratory methods. When there is a disturbance in the metabolic forces of the body, there is always a corresponding disturbance in the urine content, ever remembering that a ripple on the water's edge sends its vibration to the distant shore. It is these ripples which the Auto-Bio-Chemic treatment unfolds for you to read the disturbing forces from within.

To illustrate—Wm. M., age 23, shoe salesman in one of Chicago's large department stores. He complained that every morning he would wake up with a headache. He had a variable appetite, belching of sour gas, about fifteen minutes after each meal. Urinary examination showed nothing definite leading to a diagnosis. Examination of the eyes was negative. No nasal obstruction or tonsillar enlargement. Hemoglobin estimation 75. I could find nothing which, in my opinion, was sufficient to cause the trouble. I had made for him the 6x potency of the dehydrated urinary product and gave him one injection. Inside of 24 hours, he called me by phone and stated that he had pain in one of his teeth and it was so severe that he could scarcely stand it. I directed him to go at once to his dentist and have the tooth extracted. This was done and the result was, that no further procedure was necessary as this ended all his troubles.

Mrs. R. B., age 30, housewife, complained about pain in the right side and under the right shoulder blade for over one year. The pain in the side comes with the headache and leaves with the headache, which nearly always lasts 24 hours. She felt tired all the time and her face was very yellow. Her surgeon recommended that an operation for gall-stones be performed. Examination showed that the liver was slightly enlarged and there was a very strong odor to the urine, which contained many bile products. Injection of the 6x potency of the dehydrated urinary product was given in the biceps muscles, with the result that, inside of 24 hours, a very decided pain was produced in the right lower molar.

I ordered it extracted, with the result that all symptoms disappeared in ten days' time. She has had no trouble since.

Many cases of a similar nature could be given. In some, it affects the teeth; in others, tonsils, eyes or some other part of the body. At all times, it points out where the trouble is and it thus remains for the physician to follow it up.

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It seems but appropriate that I should bring forward some substantial proof as to the toxins and toxic products which are eliminated through the urine. I wish first of all to draw your attention to the work of Dr. McLeod, in his work on "Physiology and Biochemistry in Modern Medicine," in regard to the relative percentage composition of the blood plasma as compared to that of human urine.

Phosphates (PO_4)	0.003	0.18	60
Uric acid	0.002	0.05	25
Urea	0.03	2	60
Potassium	0.02	0.115	7
Calcium	0.008	0.015	2
Sodium	Like quantity		
Magnesium	0.0025	0.006	
Chlorine	0.009	0.27	30

From the above, it must be self apparent that the ratios of the one as compared to the other are much greater in the urine than we find them in the blood plasma. Let us take just two substances, urea and phosphates, for instance. With the former, you find comparatively small amounts in the blood, while in the urine there is 60 times as much. Urea is the greatest diuretic known. With the phosphates, you have equally as much excess in the urine compared with the blood plasma as we find in the urea. There is probably no element in the body which is of greater importance than phosphorus, be it combined with calcium, magnesium or potash. An absense of this element means disintegration of nerve substance in its various forms. The relative increase of practically all of the other substances speaks for itself and supplies the requisite elements in order to make the individual a balanced equation. There is no time in which the blood stream is the same; it is constantly changing. On the other hand, we have the collecting tubules of the kidney and a receptacle, the bladder, to hold the urine

for varying lengths of time Urine is the finished product of metabolism representing changes taking place in the intestines and various parts of the body. The transition from a normal specimen to an abnormal one represents the pathological condition present leading from cause to ultimates which is impossible to attain by using blood.

Again I wish to quote Dr. McLeod, who said that "all the ingested nitrogen, except a small and rather constant amount which is lost by the feces and the sweat, is excreted in the urine. The total nitrogen of the urine has been taken as a measure of the nitrogen or protein metabolism of the body." Commenting further, the same author said "the aromatic oxyacids are normally present in the urine in varying amounts. These include phenol, indoxyl, skatoxyl and various acids. It is believed that the putrefactive decomposition of proteins in the large intestines result in the production of these toxic bodies. The body protects itself by oxidizing them to sulphuric acid to form ethereal or conjugate sulphates which are found in the urine in the form of sodium or potassium salts."

Jaffé, Bauman and Brieger have shown that the products of nitrogenous putrefaction belonging to the aromatic series are excreted almost entirely through the urine. Salkowski says that "it sometimes happens that, when the available sulphuric acid is exhausted in the intestines, the phenols and indols are not found in the urine in the form of sulphoethers but in the form of glycuroconjugated acids."

"It is certain that the aromatic substances increase in the urine of subjects suffering from hepatic insufficiency"—Combe.

Muller and Ortweiler showed that, by a meat diet, the production of microbic intestinal putrefaction, the aromatic bodies indol and phenol particularly, were present in the urine in large quantities.

Combe says: "The kidneys are the principal emunctories for the aromatic bodies. It is through the urine that almost all of the substances derived from intestinal putrefaction and circulating in the blood are eliminated; for, they alone can have reacted on the organism. They are first the aromatic bodies indoxyls, skatoxyls, phenols combined with sulphuric acid and in smaller proportion with glycuronic acid. These are excreted as sulpho and glycuroconjugated acids. Second, aromatic oxyacids, the greater part of which are excreted as such, a lesser part as sulpho-ethers. Third, the leucomaines and enterotoxins."

For further elaboration on this subject, I refer the reader to the work on "Auto-Bio-Chemic Treatment."

Surely, it cannot be denied that cause continues into ultimates, which is, the urine itself.

T. Wilson Deachman.

Chicago, Ill.

THE CREDIT BUREAU

The Chicago Medical Society, we are informed, in its *Official Bulletin* for June 2, has agreed to operate a bureau for the purpose of informing a doctor in advance on the financial reliability and paying propensities of a new case before he renders expensive or extensive services. In other words, by knowing from the start that he is dealing with a dead-beat the doctor will take steps to insure his fee in advance.

The *Bulletin* says: "This will be made possible when the Medical Society has in its files a sufficient number of names to make a report reliable. It is obvious that, if we had on record the names of 100,000 or so dead-beats, a report would be worth while, especially since it is more valuable to us to know of a patient's dealings with a doctor than with business concerns. A man will pay his grocer or butcher, but may refuse to pay his doctor.

"Our ability to operate such a bureau depends upon the cooperation of the members of our Society, in that, if each one sends in about 30 names of dead-beats, with a membership of over 4,000, about 100,000 names would be available.

"We know of no class of merchants who do not employ some credit clearing house. The Medical Society is a corporation of which each doctor is a stockholder. Accepting the figures that the average income of a doctor is about $1,000.00, our corporation does an annual business of $4,000,000. Assuming that only 10 percent is lost on dead-beats, this contributes an unnecesary annual loss of $400,000.

This is by no means a new venture, the Credit Bureau committee having been functioning for over one year.

We are convinced that the undertaking is a very excellent one, and one that might well be taken up by other medical societies. In fact, we believe that state medical societies should interest themselves in the problem so that they could make the advantages of a Credit Bureau available to physicians in outlying districts who are not members of the medical societies in cities and towns.

We do not have to question the refusal to render free service, charitable service, where it is called for and where the object is worthy. The movement is one directed against the

dead-beat; and, of all the contemptible curs, the dead-beat who preys upon the physician is the most dastardly one. By all means, let us have Credit Bureaus all over the country; let physicians' aid in establishing proper lists of these gentry and, above all, let every single medical practitioner refuse to extend gratuitous service or credit to people so listed, unless they can show that they have cleaned up their pending bills, or unless they pay cash for services received.

VACCINATION IS 2,000 YEARS OLD

"Vaccination is an outgrowth of man's effort to protect himself from pestilence by using nature's methods of defense," says Dr. G. W. McCoy, director of the Hygienic Laboratory of the U. S. Public Health Service. "Primitive man noticed that recovery from a first attack by most diseases gave immunity against other attacks; and, some 2,000 years ago, he began to inoculate his fellows with smallpox when conditions seemed propitious instead of waiting for nature to do it at some time when conditions might be very unpropitious.

"Inoculations against smallpox were made in India and in China as early as 300 B. C. Later, when the disease reached Europe, inoculation went with it, supplemented by a new method called 'selling smallpox'—exposing a well person to contact with one ill with the disease so that, if he survived, he would be proof against it.

"Inoculation differs somewhat from vaccination as devised by Jenner, but the principle is the same. Moreover, long before Jenner's day, it was known that an attack of cowpox gave immunity from smallpox; and records show that men who had recovered from cowpox had themselves inoculated with smallpox to make the proof conclusive. Jenner, however, as he himself says, 'placed vaccination on a rock' where he knew it would be immovable.

"Before the days of vaccination, conservative estimates show that one-third of all persons had smallpox and one-tenth of all deaths were due to it. Today, smallpox is rare. Many physicians have never seen a case; and, where vaccination is consistently practiced, no deaths from it occur. Formerly, smallpox was considered a children's disease; and it still is a child's disease—where infantile and school vaccination is neglected. Witness the Philippines, where, four or five years ago, after years of neglect of vaccination, an epidemic swept away nearly 50,000 persons, a large percentage of whom were children under ten years of age.

"In the United States, well-vaccinated communities show low smallpox rates—Maryland with 0.1 case per thousand population; New York with 0.025 per thousand, and the District of Columbia with 0.14 per thousand. Poorly-vaccinated States tell another story: Oregon with 1.45; Washington with 1.72; and Kansas with 2.0 per thousand population.

"Some communities wait till an epidemic breaks out and then rush to vaccinate. This stops the disease—after it has caused many deaths and has "branded" many survivors. Sixteen months ago, in Kansas City, an epidemic of smallpox began, yielding 350 cases and 123 deaths; and a few months later another started in Denver and yielded 950 cases and 288 deaths. Such epidemics always eradicate the opposition to vaccination in the community—for a time."

[*Concluded from page 468.*]

to direct his careful attention to an article appearing on pages 477 and following of this issue of the Journal, in which the treatment of urate calculi is advocated by means of therapeutic immunization—in short, by the administration of an autogenous bacterin containing fairly large doses of staphylococcus albus and bacillus coli.

To treat "kidney stone" and, also, gout with bacterins, must necessarily arouse the indignant ridicule of our DeKruifs as much as did that broken-leg business. Still, wait a minute. If you will read the raisonnement offered by Doctor Crofton, who is an immunizator of note and knows what he is talking about, it will become evident that the idea is by no means absurd. Who knows but, even in the case of broken legs, bacterins actually may prove of service. Surely, they are urgently required (or, at least antitoxins—which are likewise bacterial derivatives, in a round-about way) in cases of open fractures, when these have been acquired in contaminated places.

So, come to think of it, our critic has not shown us up so very badly; our crimes are not so terrible. In fact, they are not crimes at all but actions based on good sense.

MALARIA INCREASE IN THE FAR EAST

A great shortage of quinine in the Russian Caucasus and Armenia and a consequent alarming increase of malaria fever are re-

ported in dispatches to Near East Relief headquarters in New York.

H. C. Jaquith, overseas director of relief operations, urged that a large shipment of quinine be sent at once stating that ten thousand kilos were needed in the republic of Georgia alone and that the government has been able to provide only a small fraction of the amount necessary. Many of the people, he said, were able to pay the cost of the quinine, but it was not obtainable at any price.

DEFICIENT DIET AND CARE OF MOUNTAIN CHILDREN

Corn bread and sorghum, dried beans, fat salt "middlings" and, as a redeeming feature, usually milk—for a large part of the year: this is the diet of Southern mountain children in a district where the Children's Bureau of the U. S. Department of Labor has made a survey of child care and nutrition. The survey was undertaken at the request of the Kentucky State Board of Health to help find "why a State famous the world over for its prosperity should turn out so large a percentage of physically defective men as the draft records showed," and its findings have just been published under the title, "The Nutrition and Care of Children in a Mountain County of Kentucky." According to the report, only 16 percent of the children studied belonged to families which were clearly "able to provide the modest requirements of adequate living." Nearly half the children were living in homes in which the family income, taking into consideration the number of acres cultivated, the quality of the soil, the amount of stock, and the wages earned by the head of the family from work at trades or for other farmers, was so small as to make a minimum standard of care appear impossible. A large number lived in board sheds, small new shanties, or old log cabins in bad repair, where the cold in winter made habits of cleanliness almost out of the question, and only about one-fourth of the children were found to have clothing which could furnish adequate protection from the weather.

Many of the children having a diet which consisted largely of milk and unbolted corn meal were found, on examination, to be well nourished, but the other foods available in the community so failed to supply the essentials of growth that undernourishment frequently resulted when the quantity of milk was small. Three-fourths of the children examined were classified as either poorly or only fairly well nourished and this classification corresponded closely to the grades of diet which they were found to be receiving. Except in a few families, the use of fresh vegetables and fruit was limited to a short period in the summer and fall and the use of fresh lean meat to an even shorter period. A small number of eggs were produced, but these were sold to secure ready cash, and milk (the report states) was thus the only food that could be counted on to any extent to furnish the protein, minerals, and vitamines needed for children's growth. When milk is lacking, decreased in amount, or changed to skim milk or buttermilk, the effect in this district is declared to be "disastrous."

Physical examinations of the children were made by a Children's Bureau physician with the "Child Welfare Special"—a motor truck built and equipped for such examinations. Four-fifths of the children did not own a toothbrush, and the examination showed that 91 out of 104 of those from 6 to 11 years of age had decayed teeth. Fifty percent of all the children examined had enlarged or diseased tonsils and many had adenoids. Still other defects indicating lack of early attention were found.

The need of soil improvement is pointed out in the report and employment of a full-time county agricultural agent and of a home demonstration agent or nutrition specialist, to encourage raising and preserving more vegetables and greater utilization of milk, eggs, blackberries, unshelled beans, and other available foods, is recommended. While it is declared that higher standards of living would follow improvement of the soil and of farming methods, education of the mothers in regard to the special requirements of children is also said to be necessary. The giving of solid food to infants at too early an age, coffee drinking by children when milk is scarce, and promiscuous eating between meals were among the common customs found. The need of more sleep for children than for adults was generally ignored. The services of a county public health nurse and instruction in diet and hygiene through the public schools are means suggested for education in health and child care.

PUS TUBE—ITS COMBINED HIGH-FREQUENCY AND VACCINE TREATMENT

The complication of a chronic ovarian inflammation with a pus tube and uterine congestion with adhesions is a common picture which the physician is called upon to treat.

The case in question, which prompted this article, was that of a lady of about 37 years and who had been a nurse before marriage. She has a child, nine years of age. Since its birth, the mother had not been well, due to a subinvoluted uterus. This resulted in a continual discharge and gradual infection of the tubes and ovaries.

When called to see the lady, I found her in bed suffering with severe pain in the ovarian region on the left side, associated with chills and fever. I prescribed the indicated remedies, such as aconite, bryonia and echinacea, and, locally tampons of ichthyol, 10-percent in glycerine; also daily antiseptic douches. She also was given, hypodermically, a modified "Van Cott" vaccine, containing streptococcus pyogenes, pneumococcus, staphylococcus pyogenes aureus and albus, and colon bacillus.

The first dose was only 2 minims, but the reaction was very severe. She had chills and fever running up to 104° and which took two weeks to subside. It was explained to the lady that it was the severe infection that caused this reaction. The next dose of vaccine was again 2 minims, but the reaction was not so severe as in the first place; so, in another week, she received 3 minims.

The pain seemed to lessen after this and the discharge was not so profuse. The vaccine was continued once a week in gradually increasing doses until she received 1 mil, without any reaction. After the sixth week, she was able to come to the office. She was advised of the necessity for the removal of the offending organs, but this she emphatically refused, as she had already refused operation, seven years previously.

She begged me to try the high-frequency treatment. This was consented to in connection with the weekly vaccine doses of 1 mil. In three months' time, she was free from any discharge, from adhesions and pus tubes, and absolutely free from pain or soreness.

The high-frequency current was given bipolar. The external pad was placed over the lower abdomen and connected to the ground terminal of the high-frequency cabinet, while the current from the Tesla was connected to a non-vacuum vaginal electrode and inserted in the vagina up to the offending painful spot. The treatment was given for half an hour daily and followed by tampons of ichthyol as already mentioned.

Although this was a surgical case, the electric treatment was given after the emphatic refusal of the lady to permit operative measures. The consequence was, that she still has those organs and, after a period of ten years, is still in good health.

This experience has been repeated on many different occasions by the writer in such desperate cases and with the same happy results.

Had the tube been occluded at its uterine attachment and, in consequence, had not been able to discharge through the uterus, the high-frequency nor any other current would only have made matters worse. One such patient appealed to the writer to try and see what electricity could do for her, saying that it helped some of her friends and that, therefore, she wished to have the treatment. I informed the lady that it would be only at her risk, which she was perfectly willing to assume. After the fourth treatment, the conditions were such that operative measures had to be resorted to.

A. S. Tuchler.

San Francisco, Calif.

SHOE BUTTON IN THE URETHRA FOR TWENTY-ONE YEARS

Patient T. Cz., age 41 years, a business manager.

When 19 years of age, he was asked by his friends to play cards with them. While playing, was given something in a drink that put him to sleep. After awaking from this sleep, he found himself in the same room and in the same chair, only fastened to the same, but he also felt pain in his penis. After loosening himself from the chair, he went out and called a city ambulance which brought him to the hospital.

There, in the hospital, he experienced retention of the urine. Pain and swelling became more severe.

On account of his inability to pass the catheter through the urethra, he was put to sleep, in order to inspect the urethra. There was revealed a small shoe-button which was removed at once.

This removal relieved the retention of urine and, gradually, also the pain and swelling. After two weeks in the hospital, the patient was ready to work, although a continuous sensation presisted that there was something still

left in the urethra. However, after experiencing so much pain and distress, he did not desire any more investigations of his urethra, and, experiencing only occasional inconvenience, he accustomed himself gradually to conditions and did not seek further treatment.

At the age of 23 years, he got married and at present has four children. He never had any difficulty or pain during coitus and only very slight distress during micturition. Recently, however, for one year and half, he noticed some difficulty in passing urine and also some burning sensation persisting some time afterward. This inconvenience at last brought him to my office.

He also brought with him a specimen of his urine and asked me to make examination of it, in order to tell him what he has in the urethra. Of course, I explained to him, that the general appearance of his urine aroused suspicion of vesicular calculi; but, whether he had anything in urethra or not, could be explained only after making a direct examination of the urethra. On direct examination, I found the penis to be well developed and without any deformity. I could palpate a hard mass at the middle of the penis, but was unable to make a guess as to its size.

It should be stated that the history of this case was not communicated to me until just after operation.

After passing a probe into the urethra, I was sure of the pressure of a foreign body, which I took to be a retained vesical calculus.

Under a local anesthetic, I succeeded in getting a good hold of the stone with forceps, but was unable to move it to the meatus even very little. I asked the patient then to see me the next day at St. Mary of Nazareth Hospital, where, under gas anesthesia, he would be relieved of his trouble.

The next day, I discussed the problem with Dr. T. Z. Xelowski who was also of opinion that we would be able to remove the stone under local anesthesia. But he removed only broken portions from the stone and was unable to move the largest part of it.

That forced us to give gas anesthesia in order to do meatotomy of about 1 inch extending into the canal, which permitted the removal of the remaining and largest part of the stone. Two stitches of catgut were sufficient to close the wound. Patient was put to bed and went home a few hours later. The next day, he reported in my office, without any edema or pain, even swelling being unnoticeable. On the third day, he was at work.

The specimen of removed stone proved to be the nucleus of another shoe-button, which was not noticed 21 years ago, was left there and caused formation of this stone, 1 inch long and ½ inch in diameter.

The most interesting part of this case is, that it shows to what extent the human tissue is capable to stand irritation from foreign bodies and even accommodate itself to it; not giving any, or only very little, inconvenience to the patient.

FRANK LENART.

Chicago, Ill.

PREVENTION OF BLINDNESS

The eighth annual report of the National Committee for the Prevention of Blindness (130 East 22d Street, New York City), dated December 31, 1922, has come to our desk.

The function of the National Committee is, we are told, to keep abreast of the scientific advance in ophthalmological knowledge of refraction, disease and operation, and to inform the public generally in layman's language of such advance, and the ways in which such knowledge and practice may be made available to the public, together with what action, public or private, on the part of the community or private organization will provide the means for professional ophthalmological assistance.

That the task which this National Committee has set itself is accomplished to a very high degree, becomes evident on consulting the report before us and also on following *The News Letter* which is published five times a year by the Committee. Its activities are far-spread and untiring. Physicians may well keep in touch with it, not only for their own information but also for the benefit of their clients.

What Others are Doing

SYPHILIS INFECTION

If there is ever a time during a syphilis infection when the disease can be eradicated from the system and a complete cure established, it is during the first six months following the appearance of the chancre. This fact is emphasized by H. M. Greene in a very excellent discussion of the problem, read before the Seattle Urological Society, last December (*Northwest Med.*, March, 1923).

The first and most important prerequisite in the treatment of syphilis, Doctor Greene points out, is a positive diagnosis, and this should be definitely established before either local or general antisyphilitic treatment is administered. In that manner, not only will the nature of the disease be determined exactly but also it will be possible to assure the full cooperation of the patient in carrying out the prolonged and arduous treatment necessary for the eradication of the disease, even after all clinical symptoms and local manifestations have disappeared. To administer either local or general specific treatment before the material is taken for laboratory diagnosis, may render the latter futile and cloud the issue.

As to the remedy, Doctor Greene points to recent literature as proving that mercury has no direct lethal effect upon the spirochetes of syphilitic lesions. Contrariwise, after the administration of an arsphenamine preparation, even in small doses, no spirochetes can be found in either chancre or mucous patches after forty-eight hours. In fact, darkfield examinations are usually negative within twelve hours after the dose.

It may be concluded that the arsphenamines possess a greater spirocheticidal action than any other agent known to medical science. The advantage is, that the patient is rapidly rendered noninfectious for others and that his distressing symptoms are relieved promptly.

Careful observations have shown that neoarsphenamine is the safest of all arsphenamine preparations.

Doctor Greene discourages the adminstration of synergistic remedies, whether actual or alleged, and believes that the arsenicals and mercury are actually antagonistic. He employs neither mercury nor iodides and prefers not to use the arsenicals until any mercury that may have been used has been eliminated from the system.

The antagonistic action of mercury and arsenic is of importance, especially because of the fact that mercury has a selective action upon the kidneys, tending to produce a nephritis. This condition necessarily interferes with the eliminating power of the kidney and promotes eradication of waste products and other substances present in the blood that ordinarily are eliminated by the kidneys.

When arsphenamines are administered, the elimination of the arsenic through the kidneys is an essential provision. Indeed, if arsenic is not found in the urine in from fifteen to thirty minutes following an intravenous administration of an arsphenamine, it is a matter of concern, in that arsenic intoxication in some form is almost certain to follow if the administration of the drug is then continued.

Doctor Greene quotes Schamberg to the effect that: "Vigorous mercurial treatment is often responsible for arsenical intoxication, when arsphenamine and mercury are used at the same time. Large doses of both ought not to be employed synchronously." When a kidney is irritated and inflamed by a generous dose of mercury, how can it be expected to eliminate arsenic or even normal body waste products at capacity? Mercury and arsenic are antagonistic in their action and should not be used together.

As to dosage, Doctor Greene insists that the first doses of arsphenamine preparations should be small in every case, even in primary and in early secondary syphilis. This is for the purpose of avoiding untoward effect, owing to individual idiosyncrasy and to test the arsenic tolerance of the patient. While small doses are not curative, they, nevertheless, accomplish a definite result and, moreover, will render condylomas and mucous patches free of spirochetes in a short time. The doses are best increased gradually, at weekly intervals, until they have become normal for the individual in question and even more, *providing* that the elimination of the arsenic is com-

plete and the treatment is tolerated without severe or brutal reactions.

It should be realized, whenever the arsphenamines are administered, that the older preparation contains approximately 30 percent and neoarsphenamine carries about 20 percent of arsenic. A normal dose of these remedies thus contains more than enough arsenic to produce fatal acute poisoning if it be administered by the stomach as white arsenic. In view of the fact that some persons are peculiarly susceptible to arsenic, it is important to adhere to the invariable rule of administering small doses at the beginning.

THE CLINICAL USE OF THE ARSPHENAMINES

For the purpose of treatment by means of arsphenamine, H. M. Greene (*Northwest Med.*, March, 1923) suggest dividing patients into two classes:

1.—Those who are in perfect physical condition and who are able to tolerate intensive, systematic and prolonged treatment sufficient to eradicate the disease.

2.—Those who have physical defects and pathologic conditions which made an intensive and prolonged treatment more dangerous than the disease itself. Great caution should be observed in handling patients in this class; everyone is a law unto himself.

In the first class, we can place only the young and the strong without a blemish of any of the vital organs; capable of taking and assimilating large doses of the arsphenamine at frequent intervals without having severe reactions. These patients are to be selected by observation, physical examination and by trial doses of the remedy.

The first dose in every case should be small, even in the robust. By this procedure, we are able to discover those who have an idiosyncrasy for the remedy in time to avoid dangerous or disastrous reactions. The doses following are to be gradually increased until the normal dose is reached and surpassed, if there is no untoward action; providing the elimination of the arsenic is complete during the interval between each dose.

In a normal individual, it requires an amount of the remedy ten times larger than the normal dose to produce a lethal effect. In other words, if you would require at one dose, ten tubes of neoarsphenamine at 0.9 Gm. to kill a normal man weighing 60 kilos, or 120 pounds; consequently, we would be able to administer to a normal man weighing 120 pounds 0.9 neoarsphenamine each day for a week without killing him. Measures like this are dangerous and are uncalled for and are not recommended.

When the patient is in the primary or early secondary stage, Greene deems it safe to make the first dose at 0.15 or 0.30 Gm. and this dose may be repeated in five days or a week at 0.30 or 0.45 Gm., if the patient is robust. The interval between the doses following should be one week, providing the reactions are not severe and elimination of the arsenic is complete. If the arsenic is not eliminated, the dose should be postponed until the urine is free of arsenic. To do otherwise, is to court trouble. If the patient becomes arsenic-fast, so to speak, chronic arsenical intoxication will be produced in the patient before the spirochete can be eradicated by the arsphenamines and it then becomes necessary to use some other form of treatment, for a while at least.

ARSPHENAMINE TREATMENT IN COURSES

In his discussion of the intensive and systematic treatment of syphilis, to which we have already referred, Dr. H. M. Greene (*Northwest Med.*, March, 1923) recommends that eight or ten doses of arsphenamine should be given in the first course and the total amount of neoarsphenamine should be from 5 to 10 Grams. In the succeeding course, four or five doses should be administered and the total amount of neoarsphenamine should be from 2.5 to 5 Grams. No mercury or other antisyphilitic remedies should be administered in the interval between courses, and the patient should observe all the rules of hygiene.

Intensive treatment must be administered with extreme caution, the patient must be frequently observed, and the remedy must be well tolerated, otherwise it should be abandoned before it is followed by disastrous results.

We must presume from clinical observation that the spirochete passes through its reproductive cycle once in twenty-one days. The chancre usually appears in twenty-one days after exposure and in twenty-one days after the appearance of the chancre the secondary eruption begins to appear. The interval between courses of treatment should be calculated to prevent a reswarming of the spirochetes. If all the spirochetes are not killed by the first course of treatment, it is presumed that there will be a new crop in twenty-one days after all arsphenamine is out

of the blood stream.

If there are no indications otherwise and the previous course of treatment has been well supported, we make the interval between the first and second courses of treatment two months. This gives time to observe untoward action of the remedy and allow the liver, kidney, and other eliminating organs to clear themselves of the drug. At the same time, a reswarming of the spirochete will not have time to occur on account of the arsenic previously stored in the tissues. If the old forms of the spirochete become resistant to the remedy and refuse to be killed by it, then it might be required to allow them to die of old age and at the same time to keep the young ones killed off by an intermittent treatment prolonged.

PRECAUTIONS IN USING ARSPHENAMINE

To avoid chronic arsenical intoxication, Dr. H. M. Greene (*Northwest Med.*, March, 1923) mentions the following precautionary rules:

1. When intensive treatment is being administered, we must know that accumulation of the arsenic is not taking place in the patient.
2. Examine his urine for arsenic twenty to thirty minutes after the dose and see if his elimination is in progress. Examine the urine immediately before each dose for albumin, sugar, arsenic, etc.
3. Do not increase the dose, if the reactions from the former dose were severe; if the reactions were brutal, the dose should be diminished by one-half.
4. Stop with the first patchy dermatitis, or toxic erythema.
5. Stop with the appearance of an albuminuria.
6. Stop when there is any sign of hemophilia present, frequent nose bleeds, bleeding from the gums, purpuric spots, etc., and test the coagulability of the blood, and take blood pressure.
7. Do not administer when there is an acute intercurrent disease or a severe cold present.
8. Proceed with care when the weight is being reduced below standard for the individual.
9. Stop when jaundice appears and administer remedies for arsenical intoxication. A jaundice occurring early in treatment is produced by a Herxheimer reaction and will usually clear up by further administration of the remedy.
10. Be cautious with intensive treatment in patients over fifty years of age.
11. Stop with the first appearance of edema as evidenced by puffiness of the eyes or pretibial pitting on pressure.
12. Stop upon appearance of the sensation of tingling of the fingers, hands or feet.

THE TEST FOR ARSENIC

Leredde, quoted by Greene (*Northwest Med.*, Mar., 1923, p. 89), recommends the Abelin test as being practical and delicate.

For this test, four solutions are required as follows:

1. Nitrite of soda 0.5 per 100;
2. Hydrochloric acid 10. per 100;
3. Resorcine pure 1. in 10;
4. Carbonate of soda 20. per 100.

In absolutely clean test tube, put 5 Cc. of cold urine and add three or four drops of the solution of hydrochloric acid and three drops of nitrite of soda. Shake the tube and allow it to stand until all reaction ceases. Apply a drop on amylo-iod-potassic paper with a glass-rod, to see if the diazotation is terminated. If there is no nitrite of soda in excess, iodine will not be liberated from the paper. If the spot turns blue, make another test, using less nitrite solution.

In another tube, put 0.3 of resorcine (5 grains) and add about 3 Cc. of distilled water (about 50 drops, approximately 1 drachm). It is important that this solution be freshly prepared, and then add 3 Cc. of solution of sodium carbonate and shake. (Tube No. 1 should be prepared and ready for mixing with Tube No. 2. Tube No. 2 should be used as quickly as possible after the water is put in the resorcine. It browns by exposure to air.)

After these two tubes are prepared, their contents should be approximately equal.

The contents of the first tube is poured into that of the second tube.

If there is arsphenamine in the urine, the resorcine in the solution is colored red; if not red, a mixture of red and brown. For comparison use a tube of plain urine without reagents.

Greene observed, in doing Jaffé's test for indican, that those urines, giving an Abelin test positive for the arsphenamines, would also give a reaction not found in those negative with the Abelin test. He believes this reaction to be a positive indication of arsenic in the urine and the test is performed in the following manner:

In a clean test tube, pour 5 Cc. of urine and add 5 Cc. of fuming hydrochloric acid, Merck, and 1 Cc. of fresh peroxide of hydrogen. Shake and add 1 Cc. of chloroform and shake vigorously. Stand the tube in the rack for 15 to 30 minutes. If arsenic is present in the urine, there will be a narrow line of deposit on top of the chloroform which will be pink in color. This color will be retained for 20 to 30 minutes or longer, in very positive cases from 12 to 24 hours. After the pink color of arsenic fades, a light yellow takes its place. The same pink line will be observed in urines, where no arsenic has been administered, but it is decolorized rapidly and does not remain longer than 10 to 15 minutes.

If iodides are present, the chloroform and entire mixture will be pink but will fade and leave a pink line on top of the chloroform, if

arsenic be present.

In one case, where the Abelin test was negative and the last test above explained was positive and was disregarded on account of the extreme condition of the patient, a severe dermatitis was the result of the continued administration of neoarsphenamine. This dermatitis was most severe and resisted all forms of treatment over a period of two months. An accident like this is most disagreeable and dangerous for the patient and distressing for the doctor as well. Every precaution should be used to safeguard the patient when a powerful and poisonous drug like arsenic is to be administered over a sufficient length of time to eradicate a syphilis. Arsenical intoxication is easier to avoid than it is to cure.

TREATMENT FOR NEUROSYPHILIS

Dr. Mariano Alurralde presents an excellent article on the subject of the title (*La Prensa Medica Argentina*), summarizing his conclusions as follows:

Clinical manifestations of neurosyphilis appear earlier in patients treated exclusively with arsenobenzol.

Lumbar puncture is indicated when neurosyphilis cannot be distinguished from tabes and paresis.

No form of neurosyphilis is to be considered as cured as long as meningeal involvement is present.

Mercurial treatment should precede the use of arsenobenzols. [Compare p. 533.—Ed.]

Meningeal or neural relapses are more serious in early neurosyphilis.

Arsenic is more active than mercury, but it should be always handled with prudence.

Arsenobenzol therapy must not be an exclusive treatment. It is contraindicated or must be used with great care in certain mental forms or congestive types of neurosyphilis.

The more advanced the cases of tabes, the smaller should be the doses.

Where meningeal involvement is indicated and the probabilities are that general paralysis will follow, specific treatment should invariably be given.

In general paralysis, medication is contraindicated or requires the greatest prudence.

Intraspinal arsenobenzol therapy is indicated in rebellious syphilis or in mercury- or arsenic-resistant patients.

A long period of observation is required before neurosyphilis can be considered as cured; and, then only when a Wassermann test of the spinal fluid is negative.

NEUROSES AND THE CHRONIC INVALID

Says Hugh T. Patrick, in part (*Wisc. Med. Jour.*, Feb., 1923): "Probably few of us realize how artificial our living is; that from the cradle to the grave life is a constant conflict between what we instinctively should like to do and what society bids us do. Very early, the normal child learns that certain perfectly natural functions may not be performed in a completely natural way. He may not micturate in the living room, take a handful of sugar from the bowl, nor strike his little sister. The ten commandments are edicts against what we would do if unrestrained. All laws, ordinances, taboos and social conventions are the same. Our instincts and natural desires are increasingly controlled and repressed; we are constantly trained and pruned and directed for society's good. Some of us stand it pretty well; adapt ourselves as well as the majority, and an indulgent public calls us normal. Some of us can't, or don't, make the adjustment, and we then are the unhappy, the unsuccessful, the ill; the criminals, the insane; the tramps, the paupers, the cranks; the dwellers in sanatoriums and hospitals, the misfits, the chronic invalids.

"Of a certain number of men in trouble, that is, in a difficult, painful, perplexing or intolerable situation, one deliberately runs away, one unconsciously runs away (ambulatory automatism; the 'amnesia' of the newspapers), one gets drunk, one prays, one falls into 'nervous prostration,' one gets intractable dyspepsia, one becomes intolerably irritable and irascible, another resorts to deception and chicanery, and some are able manfully to struggle through the difficulty to success or honorable defeat. Now, the 'nervous prostration' and dyspepsia really are behavior reactions to the situation just as are the running away, the resort to prayer or alcohol. Instead of 'nervous prostration,' the reaction might be headache, backache, insomnia, a feeling of general weakness, palpitation, phobias, tics, dizziness, convulsive attacks, functional paralysis, eye strain, etc. And if these things last long, behold the chronic invalid. In fact, chronic invalidism from physical disability alone is not so very frequent.

"A strikingly lucid exposition of the neuroses we got during the war. A large body of men picked as normal in civil life was sent to military camps for training. Some of them could not make the adjustment and fell ill with neuroses. That is to say, the situation with all

it involved, present and future, was intolerable. They did not and could not fit in. The neurosis was a way of escape. In various camps in this country, I saw typical cases of 'shell shock' in men who had never even heard a machine gun. Other men 'broke' only when they got to the training camps in France, others were normal until they got just back of the firing line, and still others were all right until among bursting shells and slaughter, when they escaped by way of the war neuroses which had saved their less stable fellows in the peaceful camps of the United States. In short, neurosis was a most disagreeable means of escape from something infinitely more distressing.

"Now we have the post-war neuroses, and some of those mean chronic invalidism. The principle is exactly that of the more acute cases. The man back from the service finds a situation which for him is intolerable or unbearably trying. He just can't meet it. To live the rest of his life a chronic invalid is far from ideal, but on the whole it is preferable to what he otherwise would have to do.

"The war and post-bellum neuroses are good illustrations because they are relatively simple. In the more complex neuroses of civil life, the principle is the same.

"The big questions are, what can we do and what shall we do with the chronic nervous invalid? Time restriction allows me to present only a few indications and comments. They sound like truisms, but are too infrequently followed:

"1. An accurate diagnosis. Unfortunately, this often requires not only an adequate conception of the nature of a neurosis, but also painstaking, patient, bold, even exhaustive investigation of all the influences inducing behavior anomalies.

"2. A neurosis being the result of maladaptation, obviously appropriate treatment means an intelligent effort to mould the patient to fit his environment or change the environment to fit the patient, or both. This sounds formidable, and often it is. Sometimes it is impossible; as impossible as it is to restore an old fibroid lung or an ancient small granular kidney, or to fit a primeval savage into modern civilization, or to carry an imbecile along with his class in school. But sometimes it is ridiculously easy.

"3. The technic is not a matter of routine but of individualization. The management of a neurosis always means the management of the individual. Sometimes, though rarely, the simplest suggestion suffices. Sometimes the suggestion must be more elaborate. Some patients are best managed by the 'persuasion' of Dubois. For some, quite elaborate explanation and exposition are necessary. Once I got a man started right by giving him a brutal smack in the face. It is amazing how many neuroses are based on fear; a fear unrecognized or only vaguely felt. Naturally, the fear must first be uncovered and clearly defined and the regeneration of a coward must be accomplished in accord with the personality of the patient. Sometimes cure means prolonged reeducation and training, with many relapses and backslidings. A fruitful occupation in which the patient can be really interested is the logical medicine for many.

"4. In conclusion, and to repeat, we must 'make the punishment fit the crime.' A neurosis is a mental disorder, a behavior reaction, and must be treated in accord with its nature. Who would give asafetida or valerian to cure a hobo from tramping? Did anyone ever suggest strychnia or Dr. Bunkem's Iodophosphatic Tonic to cure the pathological liar? Is the rest cure a good measure against prostitution, removal of the ovaries a cure for holy rolling and change of scene a panacea for inebriety? If a man tries to be a Napoleon of finance and fails, do we advise massage and stimulating baths? If he has hypochondria or simply a champagne appetite and a beer pocketbook, do we remove his appendix, straighten his septum, drain his gall-bladder and, finally, give him bromide? I am sorry to say sometimes we do. But we shouldn't."

HUMAN INFECTION WITH SARCOPTIC MANGE OF DOG

Dr. Arthur Whitfield, physician to the Skin Department, Kings College, London, reports, in the *Veterinary Journal,* several cases of human infection with *sarcoptes canis.* From an experience of about fifty cases that have occurred from intimate association with the infected dogs, Dr. Whitfield concludes:

"To put it in familiar terms, I may describe it as like a very minute chicken-pox lesion. The seed-like vesicles so common in human scabies are rarely if ever present, and eczematization and secondary pus infection, impetigo, pyogenic folliculitis, etc., are not present as a rule. Speaking generally, the eruption is far more like an exanthem than an externally produced eruption. Three rubbings of sulphur ointment cause the rapid disappearance of all the symptoms."

Among the Books

TURRELL: "ELECTROTHERAPY"

The principles of Electrotherapy and Their Practical Application. By W. J. Turrell, M. A., D. M., etc. London: Henry Frowde and Hodder & Stoughton. 1922. Price $3.85.

Here is another volume of the "Oxford Medical Publications," in which the author makes an attempt to explain the therapeutic action of electricity upon rational grounds and upon physiological principles. The text may be divided into four parts of unequal lengths, in the first of which current electricity is discussed. The therapeutic action of static electricity is considered, because it is mainly the currents derived from the static machine and not the static charge itself which possesses therapeutic action.

The second part is devoted to an explanation of the therapeutic action of radiant energy. Here the author refers to the recent work of the Erlangen gynecologists, Seitz and Wintz, who warn against the custom of employing prophylactic radiation, in the amount of forty percent of the unit-skin-dose, before operation. This, they claim, is more apt to stimulate than to destroy cancer cells.

The third part is concerned with electrodiagnosis. The chief portion, dealing with the electrical diagnosis of peripheral nerve lesions, has already appeared in the *American Journal of Electrotherapeutics*. A chapter on the electro-diagnosis of certain diseases has been added.

The fourth part explains the action of electrotherapy in some of the diseased conditions for which it is applied and indications are given of the type of case suitable for electrical treatment. To this part, some practical hints on treatment are added.

METZGER: "X-RAY TECHNIC"

Principles and Practice of X-Ray Technic for Diagnosis. By John A. Metzger, M. D. Illustrated. St. Louis: The C. V. Mosby Company. 1922. Price $2.75.

This small volume, with its numerous splendid photographic illustrations and clear, matter-of-fact text, constitutes an excellent guide for the diagnostic use of x-rays. It will be welcomed by many, beginners and advanced students of this branch of electrotherapy.

BISHOP: "ELECTROCARDIOGRAM

Key to the Electrocardiogram. By Louis Faugeres Bishop, M. A., M. D. Illustrated. New York: William Wood Company. 1923. Price $3.00.

Despite its somewhat forbidding title, this book is presented to the general practitioner rather than to the high-brow investigator. Fortunately, the author's persuasive ratiocination and his lucid descriptions contribute to making both, title and subject, far less formidable than they seem at first, and he shows that there is nothing mystical or hopelessly complicated about electrocardiography. "It is easy to learn and interpret and requires common sense far more than technical knowledge;" moreover, "the understanding of electrocardiograms is the criterion of modern, sensible, accurate handling of a patient, as compared to the slipshod casual, though doubtless well-meaning ways of the past."

Whether the individual practitioner can apply cardiography in his daily work or whether it is only for the better understanding of modern medical literature—in either case, he should study this book with care.

THOMAS: "THE SUCCESSFUL PHYSICIAN"

The Successful Physician. By Verlin G. Thomas, M. D. Philadelphia: W. B. Saunders Company. 1923. Price $4.00.

This book is intended as a guide book, "showing the way and helping the traveler to keep on the right road. For, he who keeps on the highways and follows the road signs reaches the end of the journey quickly and easily. He avoids the bumps and the detours; he saves expense and worry, and, when the trip is over, he is happy and contented."

While the book before us "can not make the blunderer efficient or make the misfit fit, it can and will, if read carefully and followed wisely, help to avoid the error that others have made."

All these remarks are exerpted from the preface and indicate the trend of the book. No doubt, they will satisfy the ambitions of nine hundred and ninety-nine out of a thousand young graduates in medicine, and it is

barely one out of a thousand who will not object to detours and byways; who rather will seek them and enjoy meandering through the beautiful paths that are not trodden by the many, browsing in pastures that afford food palatable only to the highly discerning. These few do not care to reach the end of the journey "quickly and easily;" they like to loiter by the wayside.

However, the few usually are free-lances, anyway, and are exceedingly prone to fail in the ordinary philistine pursuits. It is for the many that the book is very properly written; it is they who will derive guidance and sound counsel from its pages. It is to be kept in mind that the author does not teach medicine. That, he postulates as a condition. He rather deals with the business phases and with the various things outside of strictly-medical teachings; matters that are not usually taught in college, that many physicians have to learn through bitter experience and that many more never acquire at all.

Books of this sort have appeared before now. We naturally think of Cathell's "The Book on the Physician Himself." Older men or those who like to pay occasional visits to second-hand bookstores will be familiar with James Jackson's "Letters to a Young Physician Just Entering Upon Practice" (1856, *et ante*). The historical student probably has encountered Benjamin Rush's address to one of his graduating classes, which may be found in one of the volumes (the third?) containing his "Medical Inquiries and Observations."

No doubt, Doctor Thomas' teachings are sound and, if followed conscientiously, will lead to success. Still, we do not always or in everything agree with him. While it is perfectly true that, "To cease your medical studies the day you complete your state examination for the right to practice is professional and business suicide," and while, indeed, "A man is usually interested in that form of work in which he is most proficient" (implying the advice that the medical man will do everything to make himself proficient in as many branches of medical art and sciences as possible)—we are tempted to dispute the author's suggestion that the physician should always be busy at some task or activity connected in some manner with his profession. He claims that nothing destroys the esteem of people for a doctor more quickly than to see him occupied with something that is of no value to him in his profession, or to find him in the companionship of idlers.

The companionship of idlers should be eschewed quite unhesitatingly. However, it is not only permissible but even desirable to develop and to foster some sort of a relaxation-occupation, a hobby, something in which he can forget, for an hour or two, the strain of his professional duty. Indeed, in one chapter, the author himself advocates and recommends hobbies *and* regular vacations.

Among the problems regarding which good and well-meant advice is given, we mention the following: "Office Systems and Accounts"; "The Doctor and His Investments"; "The Physician and the Law"; "Ethics"; "Insurance"; "Vacations and Hobbies".

BAYLISS: "THE COLLOIDAL STATE"

The Colloidal State in its Medical and Physiological Aspects. By Sir William M. Bayliss, F. R. S. London: Henry Frowde and Hodder & Stoughton. 1923. Price $2.15.

This recent representative of "The Oxford Medical Publications" will be welcomed by most physicians. It is offered as an attempt to give a short account of the properties of colloids so far as they are of interest in connection with the phenomena occurring in living beings.

While the discussion is necessarily largely theoretical and technical, the colloids have become so well established among our remedial agents as to make it desirable that we possess some understanding of their nature. To procure this, Doctor Bayliss' little book offers an acceptable means.

TIDY: "SYNOPSIS OF MEDICINE"

A Synopsis of Medicine. By Henry Letheby Tidy. Third Edition, Revised and Enlarged. New York: William Wood and Company. 1923. Price $6.00.

The preceding edition of this serviceable reference book was announced in this journal in 1921 (March issue, p. 204). The present edition contains several new articles, for instance, those on barbital (veronal) poisoning, cocaine poisoning, Vincent's angina, cyclical vomiting, celiac disease and sprue; also on the physiology of digestion, on the sensory and motor tracts, and on the tests of renal efficiency, a subject in which much valuable research has been carried out lately.

We have little to add to our appreciative remarks contained in the earlier review except to confirm them. Almost constant consultation of the volume, for rapid reference, has proved it to be an exceedingly valuable constituent of those few books that form our *desk* library.

THE INSTITUTION QUARTERLY

The Institution Quarterly is issued by the Department of Public Welfare of Illinois; to reflect the public charity and penal service of Illinois; to publish the results of its investigations and research in the manifold questions of care and treatment of all classes of state wards and to lead the way towards a harmonious cooperation and coordination of all public and private agencies throughout Illinois, which at any point touch the problems of philanthropy, charity and social betterment. Editor H. Lawrence H. Becherer, Superintendent of Charities. Springfield, Illinois.

This periodical contains a surprising amount of useful information which is of service not only to physicians as physicians but also from a socioeconomic, civic, criminologic aspect. We are thinking, for instance, of several articles dealing with occupational therapy, with the efforts that are made to help former inmates of state institutions to "come back" and the many other suggestive and helpful contributions to his particular number which is a splendid example of what the *Quarterly* represents.

PEKING UNION MEDICAL COLLEGE

Addresses and Papers, Dedication Ceremonies and Medical Conference Peking Union Medical College. September 15-22, 1921. Peking, China, 1922.

The inauguration and dedication of Peking Union Medical College are commemorated in this handsome and interesting volume. The text is introduced by a history and description of the college, after which there follows an account of the dedication ceremonies. During the conference and following it, numerous addresses and papers were presented, clinics were held and interesting cases demonstrated. All of these are reported in the 416 pages of the book which is copiously illustrated.

"JOURNAL OF INTRAVENOUS THERAPY"

The *Journal of Intravenous Therapy* devoted to Pharmacology and Therapeutics of Intravenous Medication is published by New York Intravenous Laboratory and contains original articles, reprints and abstracts from domestic and foreign medical journals, including laboratory and clinical reports on intravenous medication. The latest issue (March, Vol. 2, No. 1) contains, in addition to editorial articles and abstracts, a reprinted article from the *Medical Times* on "A Plea for Intravenous Therapy Based on Over Two Thousand Injections and Three Years of Practical Experience," by William J. Hall. There is an article on "The Gravity Versus the Syringe Method." Another deals with "The Treatment of Gonorrheal Epididymitis." Then there is a title "Can Quinine Be Administered Intravenously?"; and one "Clinical Results Obtained by the Intravenous Injection of Hexamethylenamine."

While this editorial writer personally is not greatly enamored of intravenous therapy, being convinced that he can get as prompt and complete absorption into the circulation and, therefore, as good clinical results from intramuscular injections, he realizes that numerous physicians have become "sold" on the idea. To them, this *Journal of Intravenous Therapy* will undoubtedly afford many important and valuable suggestions. We believe that the journal can be procured by addressing the New York Intravenous Laboratory, 100 W. 21st St., New York City.

THE ACADEMY OF ARYAN SCIENCE DIARY

Calendar (With Diary combined) for 1923 of the Academy of Aryan Science. Tiruvendipuram P. O. South Arcot District. Madras Presidency, S. India. Established 1917. Incorporated with International Academic Union, Washington, United States of America, as an Academic Member. Printed at The Arya Kala Press, 7 Genguraman St., P. T., Madras 1922.

The Aryan Press has issued a little calendar and pocket diary of which a copy has just come to us. The text is interspersed with quotations from the Ayarvedas.

DOBELL AND O'CONNOR: "INTESTINAL PROTOZOA"

The Intestinal Protozoa of Man. By Clifford Dobell and F. W. O'Connor. Published for the Medical Research Council by John Bale, Sons & Danielsson, Ltd., London. 1921. Price 15/s. ($3.75.)

We are informed that, originally, this book was to have been written jointly, by a zoologist and a medical man, in consideration of the fact that the subject touches upon the two fields of zoology and medicine. Circumstances threw an unintended proportion of the work upon the zoologist author. The subject is one possessing special interest for laboratory, technicians and for physicians who see many cases of tropical diseases.

Dr. Robert Gray (1829-1922)

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

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Dr. Robert Gray

TO the CLINIC readers of a few years ago, Dr. Robert Gray was a well-known person and one whose frequent contributions to the reading pages of CLINICAL MEDICINE were eagerly looked forward to.

In the more recent years, circumstances prevented his writing as much as he had done and, as we announced several months ago, Doctor Gray passed away at the ripe age of ninety-three, just one year ago.

It is fitting that this remarkable man should receive more than passing editorial mention. We are happy to present to our readers a sketch of his life that was prepared, with affectionate care and out of a personal friendship lasting for many years, even though maintained only through correspondence, by Dr. J. M. French, who also is one of the older members of the "CLINIC Family." We all of us have learned much from Doctor Gray. The last lesson conveyed through the eloquent pen of Doctor French will not be forgotten.

MODERN TREATMENT OF SYPHILIS

It is a part of the psychoanalysis technic to name certain words, in more or less rapid succession, against which the subject places other words that occur to him and that may or may not be appropriate. For instance, fish —hook; house—door; dog—stone, or cat, or field, or bird, according to the pecularities of the subject. If, even a few years ago, a physician had, in such a test, been given the word syphilis, he would have replied unhesitatingly with "mercury." Possibly, as an afterthought, he might have added iodide of potassium.

That was not so long ago, and the treatment of syphilis infection and of syphilis itself was held to be comprised within the sphere of action of these two remedies.

We have changed all that, and the last few years have added a notable list of remedies to the therapeutic armamentarium of the syphilographer that belong, mainly, to the arsenicals and to bismuth compounds. It is not a figure of speech to say that these new acquisitions have revolutionized the treatment of syphilis and that the chances for definite and, let us hope, permanent recovery, after adequate treatment, are immeasurably better today than they were, even ten years ago. Discussing the selection of remedies in the treatment of the various stages of syphilis (*Prens. Med. Argent.*, Feb. 20, 1923), Dr. Juan B. Arizabalo declares that, today, syphilitics are no longer obliged to subject themselves to periodical and interminable courses of treatment during their entire lifetime, but that the time factor in syphilis therapy has been greatly reduced.

In his very interesting and illuminating article, the author discusses the principal remedies employed for the treatment of syphilis namely, mercury, potassium iodide, the arsenicals, and bismuth, concluding that each stage of syphilis has its particular appropriate remedy. Indeed, he believes that for each luetic lesion there exists a corresponding therapeutic agent.

The action of mercury is exerted against the treponema and also indirectly by stimulating the tissue to produce antibodies that inhibit the further multiplication of the virus. The actual treponemicidal effect of mercury is not as energetic as is that of the arsenicals or the bismuth preparations.

The treponemicidal action of the arsenicals is developed in conjunction with the tissues of the organisms, especially the liver. Living treponemas, suspended in a solution of arsphenamine, will not lose their motility. However, if they are placed into a solution of arsphenamine, to which macerated liver tissue has been added, the destruction of the spirochetes is instantaneous. It may be assumed that the hepatic cell produces some substances which, together with the arsenic, develops the power to destroy the treponema pallidum.

The newer bismuth salts, it appears, are endowed with energetic treponemicidal action which is exerted directly upon the virus without the assistance or intervention of organic substances.

Thus, the three agents enumerated act upon the syphilis virus in a different manner. Potassium iodide has no germicidal action. However, it modifies syphilitic tissue so as to render it an unfavorable culture soil for the spirochete.

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As for the special indications for antisyphilitic remedies, Arizabalo finds that mercury works favorably in visceral syphilitic lesions and that the cyanide seems to have an almost specific action in syphilitic lesions of the eye. Employed together with arsenic, the action of each one is enhanced.

Precautions are required in using mercurials so as to avoid poisoning, amounting from simple enteritis or stomatitis to necrosis of bone, nephritis or directly fatal intoxication.

As to the form in which mercury is employed, mention has been made of the cyanide used for the treatment of eye syphilis, always intravenously and associated with arsenic or bismuth. It frequently produces a rebellious enteritis necessitating the suspension of its employment. The biniodide of mercury is utilized when its beneficial effect on sclerosis (arterial or visceral) is desired. The benzoate or salicylarsenate of mercury may be used when the biniodide is not tolerated. In cases associated with anemia or low nutrition, a combination of cyanide of mercury and arsenate of sodium, administered intramuscularly, is well tolerated and effective, although the injections are painful. Calomel may be resorted to when a very intense mercurial action is desired.

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In the employment of the arsphenamines, the possibility of their injurious action upon the liver cells must be kept in mind, and precaution should be taken in cases of hepatic insufficiency. Further, it is to be remembered that the prompt treponemicidal action of the arsenicals may produce and liberate large

quantities of toxins causing fever and irritation of the kidneys through which the toxins are eliminated. It is said that the intense focal reaction (Herxheimer's) to arsenobenzol may be lessened or prevented by preliminary mercurial treatment. The possibility of a nitritoid crisis following the injection of arsphenamine always must be kept in mind. This difficulty is not necessarily associated with the intravenous mode of administration, since it has been observed after subcutaneous and intramuscular injections. Nor does it depend upon dosage, having followed after a large as well as a small dose of the drug. It probably is vagotonic in character.

Another dangerous accident is that of arsenical jaundice, which may either be benign or serious and may even become fatal.

Despite all drawbacks, the arsphenamines have proved of immense benefit and their use has brought it about that the malignant type of syphilis, commonly observed formerly, is no longer seen. The period of contagiousness is greatly shortened. Prophylactically, it is now possible to prevent the actual development of syphilis disease. In short, Arizabalo asserts that the power and efficiency of the arsphenamines are such that through their means the syphilis plague could be eradicated from the world, if all countries would cooperate.

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Bismuth is the latest remedy that has been introduced, and recent observations have placed it among the most powerful treponemicidal agents. There are not such objections existing against its employment as against mercury and the arsenicals. At least, unfavorable accidents associated with its administration have not been observed frequently. Barring a few objections, which are slight, the advantages of bismuth are great. Its action on the specific lesions is as powerful as that of the arsphenamines. Many lesions that proved rebellious to the latter were cured promptly by the use of bismuth. Its action seemingly is especially manifest and superior in cases of neurosyphilis. This may be explained in part by the fact that a large amount of the drug is carried into the cerebrospinal fluid. Further, bismuth is efficient in cases of syphilis that resisted either arsenicals or mercurials. Still, occasionally, cases are encountered that do not yield to the administration of this drug.

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As to potassium iodide, the author declares definitely that it would not be justifiable to abandon it in favor of the three more effective agents. It is an excellent adjuvant, possessing almost no disadvantages except those causing gastritis, acne, coryza, etc., in some patients. However, these symptoms of intolerance may be avoided by selecting another form of iodide than the potassium combination. In the cephalea and ostitis of secondary syphilis, the iodides are effective; also in gumma or tertiary syphilis. While the iodides have no direct or indirect action upon the treponema, they ameliorate the syphilitic symptoms and constitute a splendid associated treatment of this serious disease.

The author objects to any standardized or scheduled treatment and insists upon the necessity of individualization. We must be guided by the clinical and serological data which supply the one sure method of establishing a satisfactory treatment for syphilis. In this manner, poisoning can be prevented and insufficient or inopportune treatment avoided. With the aid of this new method, it is now possible to do without those prolonged courses of mercurial treatment that used to be given annually or at least periodically when mercury was the only antisyphilitic agent available. Best of all, if rational treatment is instituted in the beginning, it must be admitted now that, with rare exception, syphilis is distinctly curable.

The intelligent have a right over the ignorant; namely, the right of instructing them—Emerson.

HEALTH EXAMINATIONS

In the June issue of *Hygeia*, Dr. Haven Emerson, professor of public health in Columbia University, gives reasons enough to convince the most skeptical that health examinations pay, not only in increased health but also in dollars and cents. "It has grown to be a custom" for people who employ men and women in large numbers in shops and factories "to have each new employe examined to see if he or she is in sound health." And again, "Many of the unions are requiring an annual health examination of their members because they have found this the best way to prevent the illnesses which cost their sick-benefit funds so much." If these people who are in big business find it worth while and economical, there is probably something to it.

The idea of periodic health examinations is gaining ground. Business men and, in short, all level-headed thinking people see the wisdom of it and realize that prevention of disease is far more economical than its treatment. Doctor Emerson's article contains splendid

arguments in favor of periodical health examinations that physicians may employ in discussing the problem with their patients.

Moreover, the people are fully prepared for it through the custom of our colleagues, the dentists, who have them report at stated intervals for dental examinations.

Periodic health examination constitutes an important factor of preventive medicine and the whole chapter of preventive medicine is one to which physicians should pay much attention and they will find it much to their advantage to do so: financially, in the increased and more regular income; practically, in lessened work and greater amount of leisure for study and recreation; socio-economically, because of the improved health of the community and the fact that the physician is enabled, through this means, to reestablish himself in the position of health advisor, which he should occupy by right.

No entertainment is so cheap as reading, nor any pleasure so lasting.—Lady M. W. Montagu.

RETURN TO RELIGION

Commenting upon the remarks of Dr. Wm. W. Keen, as they were quoted by Doctor Bryce, in CLINICAL MEDICINE for June (p. 434), a correspondent remarks: "One of the most hopeful indications today is the tendency of practically all high-grade papers, daily, weekly and monthly, to emphasize the importance of the church and Christianity in solving the issues now confronting us."

In my reply, I expressed the opinion that this greater appreciation of the church, of religion, undoubtedly stands in relation, at least in part, to the fact that the church has receded from its former unyielding, intolerant and often bigoted position. It has broadened out and has grown with the times. Such archaisms, as the futile struggles of a few narrow-minded literalists against evolution (which they conceive to be atheistic) cannot arrest the progressive tendency of the church to larger and wider tolerance, all of which will inevitably bring about the result that religion, instead of being a Sunday-morning affair, only indulged in in church, will be the powerful moving force of men's actions.

In connection with this, I was much interested in an editorial that recently appeared in the *Chicago Daily News* and which I cannot refrain from reproducing in the following:

Recreation in the Church

In the report of a bureau of church architecture in one of the leading religious denominations, it is shown that 80 percent of the churches that sought help in their building plans during the last year asked that gymnasiums and other recreational and social quarters be provided. About 2,000 churches were covered by the report.

This item is only one of many showing the changed attitude of religious bodies toward healthy play and recreation. As a matter of fact, recreation for young and old is not only considered a necessity, but is recognized as an aid to morals. In fact, it has a religious significance. As Graham Taylor has said, "anyone who helps people to have a good time without doing wrong is performing a spiritual service."

It is well within the memory of many when some strongly religious persons considered it wrong to whistle or take a walk on Sunday and regarded a solemn demeanor as a necessary concomitant of piety. To them it was irreligious to smile or crack a joke, and tears were a sign of deepest reverence. Nowadays, the note of joy and wholesome living which marks Christianity is being emphasized.

The new attitude toward recreation and pleasure is enabling the church to establish itself more intimately in the life of the people. An illustration is found in the opening next Monday of 200 daily vacation Bible schools in churches and settlements, where for five weeks 40,000 boys and girls from 4 to 14 years of age, formerly left to run the streets, will be assembled for patriotic, religious and educational exercises, for craft work, habit talks, hikes, picnics, athletic contests and safety-first campaigns. Previous years have proved the spiritual value of such work.

The primary function of the church now, as always, is the spread of religious truth. Recreation will never take the place of worship, but, in interpreting all phases of life, including the recreational, as religious, the church is living up to its mission.—[The Chicago Daily News, June 30, 1923.]

APPEAL IN BEHALF OF PHYSICIANS AND MEDICAN INSTITUTES IN RUSSIA

Dr. Fridtjof Nansen, 54, rue du Rhône, Geneva, Switzerland, who is secretary of the Russian Aid, publishes the following appeal:

The Russian physicians and the medical personnel in the famine regions of that country are without resources and without means to aid the thousands of sick in their districts.

The hospitals, especially the medical village

centers which were created by the efforts of Russian physicians, cannot function for want of funds, of drugs and of instruments.

The famine regions, where the population is much disseminated by its privation, form foci of endemics and of epidemics which are dangerous not only for Russian but for all of Europe. Infectious diseases of several forms, such as typhus, malaria, etc., are causing terrible sufferings.

It is urgent that relief be granted immediately and that an energetic campaign be carried on against the consequences of the famine. Unaided. our Russian colleagues are not in a position to face the famine.

We appeal to the class consciousness of scientists in Europe and America. We hope that students and physicians in the whole world will respond generously to the request for aid in behalf of their colleagues in Russia.

Contributions may be sent to the Secretary, Doctor Nansen, at the address given in the first paragraph of this article.

Every man has in himself a continent of undiscovered character. Happy is he who acts the Columbus to his own soul.—Theo. L. Cuyler, D. D.

LOWER BIRTH FIGURES AND HIGHER MORTALITY FIGURES

In a statement issued early in June, the Department of Commerce announced that provisional figures compiled by the Bureau of Census for 1922 show lower birth rates than for 1921. For the twenty-four states shown for both years, the 1922 birth rate was 22.7 against a rate of 24.4 for 1921.

On the other hand, there is shown a slightly higher mortality rate for 1922 than for 1921. For the thirty-three states shown for both years, the 1922 mortality rate was 11.9 against a rate of 11.6 for 1921. Of course, there are many factors that might account for this lessened birth rate and higher death rate in the year 1922. Still, it might be asked pertinently whether the tendency existing *de facto* and amounting virtually to birth control is not manifesting itself more and more emphatically. The proponents of birth control are very active and their teachings are accepted eagerly by many people. Unfortunately, most of those who accept them do so merely because they wish to sidestep the duties accepted tacitly with the marriage contract. Those individual persons in whose cases birth control might be justified either do not learn of it or cannot practice it; at least in a great many cases.

It seems doubtful whether the methods suggested for birth control are either effective or harmless. We are under the impression that injury follows, at least in many cases, and this editorial writer is convinced that his position maintained for many years is justified, after all, namely, that entire abstinence is the only really effective method of birth control.

It is to be hoped that the population of the United States of America will not follow in the footsteps of some of the European people. A persistently falling birth rate has justly been explained as a sign of decadence. We are too young a nation to be decadent and we refuse to believe that we are threatened with national dementia præcox. We believe that the lowered birth rate for 1922 is only a passing incident and that it will adjust itself in succeeding years.

OLD CLOTHES AND THE "OLD ADAM"

It occurs to me that the old clothes, to which the Lady-who-gives-us-orders (collectively) objects to vigorously and disgustedly, old camping outfit, fishing suit, gardening clothes, overalls—"those dirty, nasty old things," are dear to the heart of unregenerated man (and, whisper, of regenerated man, too), not solely because of their association with certain favorite pursuits, be these camping or fishing or gardening or carpentering or what not. They afford an outlet for the inborn and, often, unconscious rebellion against the constraint imposed upon us by existing customs and restrictions. As Hugh T. Patrick says (cf. this journal, July, page 536), "from the cradle to the grave, life is a constant conflict between what we instinctively should like to do and what society bids us do"—or what we do not care to do or what society forbids us to do.

The normal healthy male human animal of eight or ten, or thereabouts, dislikes nothing quite so much as to be decked out in a new suit and to have to be careful lest it be spotted and "spoiled." Sakes alive! Doesn't Mother know that it won't be right and comfortable until it has worn so shabby and is so spotted that any care would be futile? Equally, the youngster's immediate paternal relation stands in constant fear of housecleaning for, then, with deadly and fatal certainty, some cherished ancient and, therefore, comfortable garments, shoes, slippers and such are relegated to the Salvation Army box or are quickly sent to the rummage sale, lest the (theoretical) master

of the house discover the rape and prevent its execution by brutal force.

The female of the species is not so much afflicted with this incomprehensible devotion to the "horrid old things," at least not during adolescence and during the productive years of matronly life. Later on, when the hair grays and the tiny wrinkles show, indicating that, some time (perhaps in a hundred years or so), old age will commence to approach, old clothes, old shoes, old cors— beg pardon! must not talk out of school; but, anyway, old things are no longer treated with such contumely. Indeed, even Mother deigns, and likes, sometimes, to sit down in comfies, never minding how she looks.

The young male, too, during those trying years when he has become conscious of how nice the girls can be, especially when he has felt certain definite, specific, one-girl attractions, eschews old things and decorates his person as proudly as any peacock or pheasant might wish to emulate. However, this young male is temporarily sick, pathologic, *non compos mentis.* His illusions and delusions and hallucinations render a normal functioning of the *mens sana in corpore sano* impossible—for a time. After a while, to be sure, when the knot has been tied, the novelty of double harness has worn off, and life has reassumed its wonted, everyday aspect, the natural male characteristics come to the fore once more and, soon, the old camping or fishing suits are inspected fondly; perhaps donned on the sly. At least, if the grass needs cutting, the lawn wants watering, if any carpentering or other odd job is to be done around the house, the old overalls are extracted and put on with secret and unconfessed but, nevertheless, real satisfaction.

Why is it? The young male does not ask the question. He just knows that he feels much more comfortable and untrammeled in old clothes, which he is not afraid to crease, to spot, to spoil. So, when he is decked out in his finery, he transmutes it into old clothes by the easy expedient of climbing a tree or running after the watering cart or some other equally simple but effective agent for ageing things. His daddy cannot do that. He must defer to certain indisputable restrictions and inhibitions that are imposed upon his daily conduct by custom. Still, when he has a chance to get into those ancient togs, watch him grin. He stretches himself as comfortably as old Towser who just has been lying in the dust, sunning himself. No need to be afraid of soiling his hands, or of kneeling in the grass, or of letting the hose nozzle go astray. What if a little wetting results? It does not matter. A good soaking in the tub followed by the cold shower will remedy all that. It is not so much that we are crazy about pushing the lawn mower up and down the lawn, or that we like getting all hot and sweaty and tired, gardening. It is that there is an opportunity for removing the inhibitions, the restrictions of custom; that we like to be natural for awhile, and have a good time, even though hands and face be dirt-streaked and the pants not pressed.

The love of the male human for old clothes is a defense reaction against the everlasting inhibitions. And, so, we have safely come down (or is it up?) to Freud, who explains everything that happens to us. Ne'er mind, though; even if it is a defense reaction, it is jolly nice. If the "old Adam" has to come out (and I think it is much better for him to get an occasional airing), my vote is in favor of old clothes. They are a safety valve against the ennui of good behavior prolonged unduly. They make possible a let-up from too strenuous devotion to *les convenances.* They are much better, in the end, than a dangerous meddling with bootleggers and their nefarious works, better than explosions in other, more dangerous, directions.

Thanks, I feel better. The lady-who-gives-me-orders has had so many unkind things to say about my "filthy old overalls," that I was hard put to it to find an excuse for my liking and devotion for them. Now that I have explained their *raison d'être* to my perfect satisfaction, I shall go home and put them on and water the lawn. So long. See you later.

P. S.—I have not mentioned getting all messed up working on the car, in the garage or on the road. The answer is easy: I don't own an automobile; not even a Ford. Don't need one for business and as for pleasure—, well opinions differ about that. There, though, old clothes are suitable, if ever.

Recreation is intended to the mind as whetting is to the scythe, to sharpen the edge of it, which otherwise would grow dull and blunt—as good no scythe as no edge.—Bishop Hall.

OUR HOMEOPATHIC COLLEAGUES

It goes without saying that Dr. Edward H. Ochsner's reference to Oliver Wendell Holmes' essays on "Homeopathy and Its Kindred Delusions" (this Journal, June, p. 393) would give rise to numerous comments, most of which, as might be expected, were condemnatory of Doctor Ochsner's adverse criticism of

the Homeopathic teachings. We had refrained from saying anything on that matter editorially, in the June issue of CLINICAL MEDICINE, because we desired to see just how our subscribers would react to it.

One of our correspondents admitted, frankly, that, at first, he got angry and wanted to stop the Journal, but he decided, after all, to continue his subscription. Another one says that he has read the Journal for ten years and can recall having enjoyed many articles which showed an unusual liberality on the part of the editors toward things savoring of Homeopathy. At the same time, after having read Doctor Ochsner's article, he decides not to renew his subscription.

The expressions of appreciation, of editorial fairness and liberality, in our policy of yielding the floor to both sides of any problem are, we believe, merited, because it has always been our rule to extend a hearing to everyone who had an honest opinion to express, whether this opinion agreed with ours or not. To acknowledge that policy and then to discontinue his subscription, as one physician has done, because we printed something that he did not like, makes one smile. It is about as ludicrous a performance as could well be observed.

What pleases us particularly is the good sense displayed by one of our correspondents who thanked us for publishing Doctor Ochsner's article and who confers with those other fellows (not necessarily Homeopaths but rather Osteos and Chiros.—ED.) because he wishes to see what they do. And he is right. How on earth can we say that people with whom we disagree are wrong, if we do not know their methods fully? Where is the justice in condemning others with whose teachings and methods we are unfamiliar?

It seems necessary for us to assure our Homeopathic and our Eclectic friends that, editorially, we have a great liking for them and also a good deal of respect for the care that they observe in their drug treatment, in determining indications and in many other ways. While we must admit that the "proving" of Homeopathic remedies seems to us rather overdone, and is made to include a lot of things that can have no possible connection with the dose of medicine swallowed, it must be realized that the study of drug action is fostered diligently and that we of the old school might well follow their example in many ways.

The funniest thing in this entire matter is that our good correspondents, who stand up so energetically for the Homeopathic school, defend something that actually hardly exists. We doubt whether there are one dozen simon-pure Homeopathic physicians in this country today. A physician friend, to whom we submitted the question, said that there were only two.

Now—don't get excited and don't talk all at once, please! Just read that sentence again. By simon-pure Homeopathic physicians, we mean those who strictly and closely follow Hahnemann's teachings regarding the treatment of sick people or, rather (as he actually gave it) of disease symptoms; while they eschew all other therapeutic measures, methods and weapons of any kind. The editor remembers having met one such exclusive Homeopathic physician in a professional experience of over thirty years. He counts a good many friends among Homeopaths, whom he values highly. Not one of them, with that single exception, is an honest-to-goodness, actual and exclusive Homeopath. They all are physicians rather than Homeopaths, in so far as they practice all methods that come to their attention and hold fast to the good—which, of course, is as it should be and which is far superior to any "Organon" teachings that were ever promulgated.

We understand that there are seven Homeopathic schools in this country now. We quite admit that, in everything but Materia Medica, the curriculum has been adopted in conformity with the high standard of requirements prevailing today. The graduates of these schools, for several years, have ranked well, and it can not be claimed that their study of the Organon does them harm. The harm would come if they should take Hahnemann seriously in regard to his peculiar teachings relative to the underlying cause of seven-eighths, at least, of all chronic diseases which, Hahnemann says, are "produced by the existence in the system of that infectious disorder known in the language of science by the appellation of Psora but to the less refined portion of the community by the name of Itch." In the words of Hahnemann's "Organon," this Psora is the sole, true and fundamental cause that produces all the other countless forms of disease which under the names of (follow 32 names of diseases and symptoms) appear in our pathology as so many peculiar distinct and independent diseases.

Righto! We are at once and inevitably reminded of "bovine syphilis" which, today, is being accused as the cause of virtually every chronic disease, by Abrams.

A GOOD LOCATION

Our good friend Dr. William Thomas Thackeray of Fowlerton, Tex., informs us that there is a good opening in that place for a young physician. Fowlerton is about sixty miles southeast from San Antonio. It is a thriving young town and is the center of a steady and settled population of a fifteen-mile radius. While the pay is slow, it is good.

Doctor Thackeray has many nice things to say about the climate of that region and is anxious to get a good physician there. He will be glad to make the introduction and can be of great assistance as he is one of the oldest settlers of the place.

Every man with an idea far ahead of his times has had to suffer his way to success.—Forbes' Magazine.

MELLON INSTITUTE OF INDUSTRIAL RESEARCH

We have just received the tenth annual report of the Mellon Institute of Industrial Research. This institute maintains an industrial fellowship system which is a center for technical investigation in chemistry and allied subjects. Its purpose is, to promote industrial success through scientific research; in other words, to find new materials and new processes for industrial development and to advance manufacturing through the application of scientific methods to industry. The institute is a part of the University of Pittsburgh.

In order to share in the advantages of the institute, any individual industrialist, any industrial company or an association of manufacturers having a suitable problem, or group of problems, requiring investigation may become the donor of an industrial fellowship, providing the problems are of sufficient scope to warrant the services of at least one research worker for a period of not less than one year; and also providing that there is no other investigation in progress in the institute on the research topic which is of interest to the prospective donor.

Such research work is, of course, held in trust, knowledge concerning its progress and its subject matter being withheld from the public, if it is so desired. On the other hand, knowledge gained by one industrial fellow along one investigational line becomes available to another research worker providing that such cooperation does not violate a trust.

It can readily be seen that the work done in this institute carries with it great possibilities for good. Some of them interest physicians directly, some indirectly. Among the subjects being worked on, at the present time, by industrial fellows, we mention: synthetic resins, bread, protected metals, food container, edible gelatin, ester, carbon dioxide, heavy chemicals, salt, medicinal.

RELATION OF THE PRESCRIPTION CHEMIST TO THE PHYSICIAN

"The Rx. chemist, even when urged so to do, should always refuse to prescribe or attempt diagnosis. He should, under such circumstances, refer applicants for medical aid to a reputable, legally qualified physician. In cases of extreme emergency, as in accident or sudden illness on the street, in which persons are brought to him, pending the arrival of a physician, such prompt action should be taken to prevent suffering as may be dictated by humanitarian impulse and guided by scientific knowledge and common sense.

"The Rx. chemist should not, under any circumstances, substitute one article for another, or one make of an article for another in a prescription, without the consent of the physician who wrote it. No change should be made in a physician's prescription except such as is essentially warranted by correct pharmaceutical procedure, nor any that will interfere with the obvious intent of the prescriber, as regards therapeutic action.

"He should follow the physician's directions explicitly in regard to refilling prescriptions, to copying the formula upon the label or to giving a copy of the prescription to the patient. He should not add any extra direction or caution or poison labels without due regard for the wishes of the prescriber, providing the safety of the patient is not jeopardized.

"Whenever there is doubt as to the interpretation of the physician's prescriptions or directions, he should confer with the physician in order to avoid a possible mistake or an unpleasant situation.

"He should never discuss the therapeutic effect of a physician's prescription with a patron nor disclose details of composition which the physician has withheld, suggesting to the patient that such details can be properly discussed with the prescriber only.

"Where an obvious error or omission in a prescription is detected by the Rx. chemist, he should protect the interests of his patron and also the reputation of the physician by conferring confidentially upon the subject, using the utmost caution and delicacy in handling such an important matter.

"We believe these to be the correct duties of a Rx. chemist in his relations to the physician, and as Rx. chemists we adhere strictly to them.

—X X Drug Company."

A correspondent who sends us the foregoing letter remarks:

"This letter sent to the physicians of a lead-

ing industrial center by a drugstore seeking their prescription work is suggestive. It is highly commendable and restores the druggist to his original place as the pharmacal collaborator of scientific medicine. It is to be regretted that the whole thing might remain resting right here.

"The sorry side, however, must be told. Unless a drugstore has a sufficient patronage to make it a commercial success, it must gain its trade by any method available—or go into bankruptcy. Counter prescribing, patent nostrums, sharp schemes, and petty merchandizing follow as a natural result. Not one drug store in the hundred can qualify under the terms of this letter.

"This old question has been thrashed out time and again, leaving it just where it started. Both, physician and druggist, must look out for themselves—and let the devil take the hindermost. Their cooperation must be largely incidental and adjusted to their personal needs and circumstances.

—B."

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[Theoretically, the views expressed in the letter from the X X Drug Company are indubitably correct. The druggist, to whom the physician entrusts the compounding of his prescriptions with which he confidently expects to benefit his patients, may not prove untrue to his trust by discussing adversely either the prescription itself or the diagnosis made by the physician, as it has been imparted to the members of the family.

The doctor touches upon the sorry side of these many phases of the drugstore *business* which have been the subject of much acrimonious and also of more gentle discussion. The drugstore, it is said, must carry a multiplicity of goods in order to exist. Indeed, its function, virtually as a department store, is defended with the all-powerful argument of the dollars-and-cents question.

We can not but think that a drugstore that is a drugstore pure and simple could exist if there were not so many of it. As far as we know, a goodly number of such exclusive drugstores (or chemists' shops, or apothecaries' shops) exist, for instance, in Chicago, although most of them are situated in those skyscraper office buildings that possess a very considerable population made up of physicians. However, there is, in this city, at least one drugstore, down town, which is known to be only a drugstore and absolutely deals in nothing else but drugs and medical supplies.

We are under the impression that druggists are compelled to enlarge their sphere of influence, as it were, and to diversify the goods they carry, including cigar counters, candy counters, soda fountains, and all the rest of it, for the reason that there are by far more drugstores in the city than are necessary to fill the needs of the population. If some sort of a plan could be drawn and if the excessive number of drugstores could be cut down, we believe that our friends, the druggists, could devote more attention to their actual work and they would not be compelled so much to be merchants on a large scale.

We admit that the subject is far too large to be discussed in an editorial comment.—Ed.]

A man's appearance falls within the censure of everyone that sees him; his parts and learning very few are judges of.—Steele.

MAKE YOUR DEBTOR YOUR FRIEND

It has always been a sore problem with physicians how to deal with those of their clients who are slow pay. To enforce payment by undiplomatic duns and, possibly, by recourse to law, usually results in the "gaining" of several very good and active enemies. Not only is the debtor, who has tried to beat the doctor out of his justly-earned reward, his enemy for life, but he has a following in his family and in his friends whom he prejudices likewise against the unfortunate physician.

And, yet, it is not well either for the physician or for the patient himself that the latter should be permitted to get away with his little plan of *doing* the doctor. Moreover, it happens, many times, that the debtor is hard up and actually can not discharge his obligation.

Similar conditions prevail where the doctor himself becomes the debtor, especially when he is indebted to a pharmaceutical house for medicines that he has used in his practice. Some doctors are desperately slow pay, for the reason that they are paid so slowly and irregularly by their patients. Some are tardy in meeting their obligations because they dislike everything pertaining to business. They fail to realize that promptness and regularity would make them preferred customers of their supply houses, that they might save money by paying their bills early and taking the discount; that they would benefit indirectly by observing strict business methods and enforcing them in the case of their clients.

We are led to these musings by having called to our attention a letter from a certain

physician customer of The Abbott Laboratories who evidently had been behind-hand with his payments and who had received a dunning letter. The correspondent in the credit department of The Abbott Laboratories understands his business. That is quite manifest. He is a psychologist and knows how to get his correspondents to react to his duns and yet remain his friends and the friends of the firm.

Since the letter of which we speak possesses several points of interest, and especially since it carries a lesson that may be useful to all of us, we venture to reproduce it herewith. It is as follows:

"I wish to thank you for your very kind and appreciated letter of the 8th, inst. A letter like this is very encouraging and is out of the ordinary, for one in your position, to write to those who are greatly behind with payments to the firm they are working for. I shall keep this letter on file as an example of the qualities of a whole-hearted and a real true-to-goodness business man, and to remind me of the good spirit, gentleness and friendliness of one whom I loved (though never saw), who originated the firm for whom you are working, the late Dr. W. C. Abbott, and I am sure that the attitude of the whole of the business administration is in keeping with the grand and noble principles of its founder.

"Without personally knowing him, I have ever felt friendship, affection and fraternalism for Doctor Abbott, and the news of his death brought me the pangs caused by the loss of a great friend. This, though, is small wonder, when I have associated with him from my youth, reading him, all bubbling over with inspiration and good cheer. His journal was the only one, out of all those published, that had a personal touch, something that kept me hungry for the next issue, and made me feel better in every way. To me, Doctor Abbott still lives in the personnel of The Abbott Laboratories and in the columns of The American Journal of Clinical Medicine.

"Again, I thank you for your fine letter, all of which I have digested, and the goodly advice appreciated and taken for the future.

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[The good advice, of which this correspondent speaks appreciatively, consisted in the suggestion to collect more closely the sums due him from his patients. People seem to have plenty of money to spend on automobiles, gasoline, moving-picture shows, theaters and other things. Yet, they will often let their honest debts go by the door. People that owe you money go riding past your office, bent on all kinds of pleasures and, then, they call you out in the dead of the night to take care of their sick families; and make you wait for your money. This is neither just nor fair. It is the part of wisdom to make people understand that the physician's work entails a business side just as any other calling or occupation. If the "business" of the doctor is neglected, his work will suffer and, in the end, his patients are the losers.

Physicians should collect far more closely than they do, where the patients can pay their bills. We do not mean, where they happen to have the money handy; but we mean, where they are financially in a position to discharge proper indebtedness incurred. It is different in the case of poor people. We would be the last ones to suggest that any physician should attempt to take blood out of a stone. Many times, gratuitous or partly gratuitous attendance upon people who are poor, without their fault and who honestly try to go through life decently and respectably, may be a privilege. It always is a good investment, because it makes for good will. And, good will is an asset.

Those patients, however, who are financially able should be made to understand that their bills to the doctor are properly preferred debts and that they should be discharged within thirty days, unless special arrangements have been made.—Ed.]

Let men laugh when you sacrifice desire to duty, if they will. You have time and eternity to rejoice in.—Theodore Parker.

"THE STORM WAS FOR THE BEST"

On page 590 of this issue of Clinical Medicine there appears a sonnet which the author very kindly permitted me to print. She is a young lady just out of high school who, to my ancient eyes, appears to be but a child; but, who, nevertheless and quite evidently, has a personality, a mind of her own, and uses it.

When her mother read that sonnet to me recently, the concluding sentence impressed itself in my mind. In fact, it stayed there and set up a train of thought which, it seemed to me, would lend itself as a text for a strong editorial on the text: "The Storm Was for the Best."

It makes one think of so many things, among which, naturally, the scriptural "whom the Lord loveth He chasteneth" intrudes first of all. To tell the truth, that very fact makes me pause. One might easily talk in the strain opened up by this intriguing sentence—"the storm was for the best"—but, at least in my present frame of mind, what I could say would be trite.

Yet, the thought will not down. It persists

[*Continued on page 590*]

Leading Articles

Compounds of Bismuth in the Treatment of Syphilis

By GEORGE W. RAIZISS, M. SEVERAC and W. WINICOV, Philadelphia

AFTER the discovery of the remarkable antisyphilitic effects of the various organic derivatives of arsenic, it was quite natural for investigators in the field of chemotherapy to undertake a search for similar properties in the organic derivatives of the elements allied to arsenic. One of these elements studied was bismuth, the trypanocidal properties of which were first discovered by Robert and Sauton [*Ann. de l'Inst. Pasteur,* XXX. 261 (1916)]. Most of the experimental work on this subject, however, was done by Sazerac and Levaditi. These two men investigated the action of a number of bismuth compounds in experimental animal infections and came to the conclusion that of all these compounds thus far prepared the tartrobismuthate of sodium and potassium was the most effective. They found it to be easily tolerated by rabbits in doses of 50 to 60 mg. per kilo of body weight, when administered intramuscularly or subcutaneously. Doses of 100 mg. produced toxic effects, while 200 mg. per kilo resulted in death within two to four days. Intravenously, however, the compound was highly toxic, a dose of even 5 mg. causing death within a few days. This superiority of the intramuscular route is due to the delayed absorption of the drug by the tissues in which it is temporarily fixed. Müller [*Münch. Med. Woch.* 69, 547 and 1659 (1922)] has proved this to be the case by the decreasing intensity of the shadow cast by the bismuth upon roentgenograms taken on successive days after intromuscular injection.

The therapeutic action of the tartrobismuthate of sodium and potassium is interesting. Sazerac and Levaditi [*Compt. rend.* 172, 1391 (1921)] observed its curative action upon experimental syphilis in the rabbit and upon the spontaneous spirillosis (Sp. cuniculi) of that animal. The administration of 60 mg. per kilo of guinea pig freed the animal of trypanosomes after 48 hours, and a dose of 100 mg. produced the same results twenty-four to forty-eight hours, but a relapse occurred after twelve to fifteen days. In another paper [*Compt. rend. Soc. de Biol.* 85, 430-31 (1921)] the same authors report that, when guinea pigs infected with Nagana trypanosomes are injected subcutaneously with 200 mg. of the drug, the animals subsequently show a relapse. Smaller doses cause more frequent relapses which, however, may be caused to disappear by renewed treatment. With timely renewal of treatment, the relapses may even be prevented. In this manner, the life of an infected guinea pig was prolonged to 80 days, while the control animals lived only 25 days. But permanent cures were not obtained. These results agree with those obtained by Adler [*Ann. Trop. Med. and Parasitol. XV,* 433 (1921)] who likewise was unable to cure guinea pigs infected with the Nagana trypanosomes by means of sodium tartrobismuthate.

Sazerac and Levaditi further investigated the prophylactic qualities of the drug [*Compt. rend.* 174, 128 (1922)], and found that an injection of 50 mg. per kilo, three hours after a preputial infection, decreased the treponemic lesions in rabbits. Spirochetes were absent after sixty and sixty-three days. Administration per os had some prophylactic effect, while application as a pomade to the infected regions, one to four hours after the infection, in some cases prevented the disease in animals contaminated by sexual contact.

Personal Experiments

Our own experiments with potassium tartrobismuthate also indicate that intravenous injections of this drug are highly toxic, much more so than the intravenous administration of organic arsenicals, such as arsphenamine and neoarsphenamine. In this respect, the potassium tartrobismuthate resembles the organic compounds of mercury. Thus, for white rats, the maximum tolerated dose per kilo body weight for arsphenamine, by the intra-

Contribution from the Dermatological Research Laboratories.

venous route, is 100 to 160 mgs.; neoarsphenamine 200 to 400 mgs.; bichloride of mercury 2 mgs.; mercurophen (sodium oxy-mercury-ortho-nitro phenolate) 6 mgs., while, for rabbits, mercurosal (disodium hydroxymercurisalyciloxyacetate) and flumerin (hydroxymercurifluorescein) shows a maximum tolerated dose of 10 and 30 mgs. respectively. Now, when white rats were similarly injected with potassium tartrobismuthate, a pure sample of which, containing 68.5 percent of bismuth, has been prepared by the authors, those of the rats which received as much as 10 mg. per kilo continued to live after five days, while doses of 15 mgs. per kilo killed them within three days. The technic followed in these tests was that standardized by the Hygienic Laboratory at Washington [Bull. No. 113, Hygienic Lab. July, 1918; *Amer. J. of Med. Sciences,* 160, 188 (1920)].

We were also interested to find out what effect, if any, the compound under discussion had upon the kidneys of the experimental animal. We, therefore, took a commercial sample of Luatol, which is a tartrobismuthate of sodium and potassium, analyzed it for bismuth, and then injected a rabbit intravenously with a quantity of the solution calculated to correspond to 3 mgs. of the solid compound per kilo. The results were as follows:

Time when blood was taken	Weight of Animal in Grams	Mgs. per 100 cc. of Blood		
		Non-protein Nitrogen	Urea Nitrogen	Creatinine
Before injection	3400	34	14	1.5
2.5 hours after injection	3490	38	15	...
3 days after injection	3250	76	51	2.0
7 days after injection	3360	57	30	...
10 days after injection	3300	50	28	1.8
15 days after injection	3245	40	24	..
18 days after injection	3290	40	21	...
21 days after injection	3290	36	16	1.6

A perusal of the figures in the above table will show how rapidly an intravenous injection of Luatol affects the kidneys. An increase in the non-protein as well as urea nitrogen of the blood, and probably also of creatinine, is apparent within 2½ hours after injection. This increase is more than doubled during the next three days, after which it begins to decline, and it is not quite normal even after twenty-one days. The results, therefore, seem to indicate that intravenous injection of Luatol in amounts one-half of the maximum tolerated dose, which was found by us to be about 6 mgs., produces severe nephritis, which only clears up about twenty-one days after the injection. Here again, the resemblance of the action of the drug to mercurials is striking.

Intravenous Route Dangerous

From the above it is clear that intravenous injection of potassium tartrobismuthate is harmful to the animal. However, when administered intramuscularly into the muscles of the leg, we found that the drug is very well tolerated, the compound prepared by the authors producing no untoward reaction of any sort even when doses as high as 70 mgs. per kilo have been employed. According to the animal experimentation, then, if the relationship to the weight holds good, a man weighing 60 kg. should tolerate over 4 Grams of this compound.

We further investigated the effect of the intravenous administration of the drug in experimental trypanosomiasis (Trypanosome Equiperdum), the animals being infected intraperitoneally and tested according to the method of Voegtlin and Miller [*Public Health Report* 37, 1627 (1922)]. Our results indicate that the compound thus administered in doses up to 5 mgs. per kilo has no destructive effect upon the trypanosomes. In fact, it practically does not influence the course of the infection, as the animals thus treated all died within forty-eight hours.

Bismuth in Experimental Syphilis

But, if bismuth, like mercury, has no effect upon trypanosomes, it also resembles the latter in exerting a powerful influence in experi-

mental rabbit syphilis. In this set of experiments, the method of infection was that developed by Brown and Peace [*J. Exp. Med.* 31, 475 (1920)]. A rabbit with a progressing testicular lesion due to Spirochæta pallida of the Nichols strain was anesthesized with ether, the lesion excised with aseptic precautions, and the material thus obtained emulsified by grinding in a mortar with a few cubic centimeters of normal salt solution. If dark field examination showed the presence of many organisms, about 0.5 Cc. of the emulsion was injected into each testicle of a normal rabbit, the lesions usually appearing three to four weeks after infection, when treatment was instituted. Our results appear in the following table:

RABBIT No. 54E.

Wt. in Grams	Dose Gms. per kilo	Route	Days After Injection	Clinical Notes — Left testicle	Clinical Notes — Right testicle	Dark field exam. for spirochetes
2280	0.003			Medium sized node. Enlarged.	Medium sized node. Very slight edema. Enlarged.	++++—Very active
		Intravenous	1	Condition unchanged.	Condition unchanged.	++ Quite motile
			2	Smaller.	Smaller.	—Negative
			3	Node smaller.	Condition unchanged.	—Negative
			7	Normal.	Several small nodes.	—Negative
			14	Normal.	Very small node.	
			21	Very small node.	Normal.	
			28	Normal.	Normal.	
			35	Normal.	Normal.	
			42	Normal.	Normal.	
			48	Normal.	Normal.	
			55	Small node.	Normal.	

NOTE—++++ means very numerous.
++ means 4-6 in each field.

See page 554 for table showing result of intramuscular injection

From the above it will be seen that 3 mg. per kilo injected intravenously exert a rapid favorable effect upon the syphilitic lesions in rabbits, but it is not sufficient for a complete cure. Judging by the disappearance of the spirochetes 48 hours after injection, its effect should be considered powerful.

Intramuscular injection is more encouraging. By this route, a much larger dose can be safely given, especially when suspended in oil. On the basis of our own experiment, therefore, potassium tartrobismuthate should have a very marked effect in the treatment of human syphilis.

In Human Syphilis

In the treatment of human syphilis, the results obtained with bismuth are very favorable. Fournier and Guénot, who first applied it clinically, have already treated several hundred patients, and recommend its use in a suspension of oil. The route of administration is intramuscular, which is decidedly less painful than the subcutaneous injection. The intravenous route is absolutely contraindicated. These authors administer the compound in a 10 percent suspension in olive oil, at first 0.2 Grams daily and then 0.3 Grams twice weekly throughout the first month during which a total of 2 to 3 Grams of sodium and potassium tartrobismuthate is given. After this period, the patient may receive 0.2 to 0.3 Grams weekly, or else he may be allowed one month rest, after which the regular course of treatment is repeated. Pomaret, however, states [*Urol. and Cut. Rev.*, 26, 766 (1922)] that the doses used by Prof. Jeanselme and his collaborators were almost always 0.10 to 0.15 Gm, by in-

tramuscular injection of 1 Cc. or 1.5 Cc. repeated every two days, and that the total number of injections never exceeded 17 to 20 in any one case. Pomaret himself (*loc. cit.*) goes even further and recommends, on the basis of his own investigations, doses of 0.2 to 0.03 Gms. every two or three days as the proper dose. With this dose, he claims never to have observed any of the "reactions" reported by the various other investigators.

Under the tartrobismuthate treatment, spirochetes disappear from the primary lesion after the first to the third injection. Cicatrization is rapid, the chancres being healed, as a rule, within two weeks. The remedy is particularly useful in the contagious stages of the disease and, according to Fournier and Guénot (*loc. cit.*), causes more rapid and complete disappearance of the contagious lesions than does arsphenamine. In secondary syphilis, the cutaneous lesions usually disappear within a week, while tertiary lesions heal up almost just as rapidly, especially cases of gumma and tertiary skin and mucous membrane manifestations. According to Veber [*Compt. rend. Soc. Biol.* 86, 891 (1922)] bismuth acts energetically on cutaneous and visceral lesions, the latter, as well as hepatic and articular manifestations, giving way after 4 to 5 injections.

Pomaret (*loc. cit.*) reports the remarkable effect the drug had upon the fever and upon the general health of one of his patients. This was a woman with a secondary eruption accompanied by high fever, insomnia, very marked asthenia, complete anorexia and intense, persistent cephalalgia. After the fourth injection, the general condition improved, the appetite returned, the insomnia disappeared, and the patient recovered a good general state of health. The temperature sank by lysis after the fifth injection. In two other cases with violent cephalalgia, the latter disappeared in about ten days, while in still another case of circinate, infiltrated syphilides of the forearm and the groin, the rapid disappearance of the infiltration and the transformation into simple pigmented macules occurred in ten days.

Müller (*loc. cit.*) corroborates the findings of the above investigators and emphasizes the very good results he obtained in the treatment of secondary syphilis accompanied by hypertrophic papules and rupeal syphilis which ordinarily resist the usual methods of treatment. He also points out the particular value of the bismuth compound in those cases where the spirochetes have become arsenic-fast. Such cases improve rapidly under the bismuth treatment.

Villemin has treated a number of cases of primary, secondary and tertiary syphilis with tartrobismuthates and reports [*Urol. and Cut. Rev.* 27 No. 1 (1923)] that the favorable influence of the medicament cannot be doubted. The general symptoms, such as fever, pains in the bones, articular pains, and general fatigue are beneficially influenced, while in one of his

RABBIT No. 47E.

1760	0.020	Intramuscular		Enlarged. Large edema. Medium node.	Enlarged. Small edema. Medium node.	++—Very active
			1	No edema.	No edema.	+—Quite motile
			3	Smaller and softer.	Smaller and softer.	—Negative
			7	Normal.	Normal.	
			14	Normal.	Normal.	
			21	Normal.	Normal.	
			28	Normal.	Normal.	
			35	Normal.	Normal.	
			42	Normal.	Normal.	
			48	Normal.	Normal	
			55	Normal.	Normal.	

NOTE—++ means 4-6 in each field.
\+ means 2-3 in each field.

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patients, who had an absolute intolerance for arsenicals, the papulous lesions of the palmar surface of the finger disappeared within a month. Villemin is also of the opinion that, in tabes, bismuth salts are not inferior to arsenicals in improving disturbances of movements, fulminating pains and neuralgias. It is in fact the remedy of choice, since the passage of the salt into the cerebrospinal fluid has been shown by many authorities who have studied the absorption and elimination of this new drug.

Levy-Bing, Gerbay and Phillipreau. [*Ann. des Mal. Vén.* 17, 174 (1922)] direct attention to the rapid effect of the tartrobismuthate on visible lesions; while Marie and Fourcade [*Ann. de l'Inst. Pasteur* 36, 34 (1922)], reporting on a large number of cases, state that, although the influence of the drug on general paresis is practically nil, its effect on localized neurosyphilitic processes is more favorable.

Ahlswelde points out [*Urol. and Cut. Rev.* 27, 92 (1923)] the important fact that, of all the observations made to date on the treatment of syphilis with bismuth compounds, no one has yet mentioned about any impairment of the kidneys during that treatment.

Simon and Bralez sum up the results of their experience in 113 cases of syphilis [*Bull. Méd.* 36, 523 (1922)]. They state that treponemes disappeared from chancres and from the mucous lesions of secondary syphilis within two to fourteen days. Chancres were healed in the average of fourteen days after a total of four injections, whereas the lesions of secondary syphilis healed after six injections. They also treated several cases of cerebrosyphilis and tabes dorsalis and report notable improvement in the clinical symptoms of several of these cases, although no change occurred in the cerebrospinal-fluid findings.

Effect on Wassermann Reaction

As to the effect of the bismuth treatment upon the Wassermann reaction, the data of most of the more recent investigators are too meager to render any definite opinion, but they all seem to agree that its influence is not as rapid as that of arsphenamine. However, the men who had the most experience with this new mode of treatment are more definite in their statements. Fournier and Guénot observed that, in cases showing a negative Wassermann at the beginning of the treatment, the sero-reaction remains negative, while in those showing a positive reaction the Wassermann test becomes weaker after the first series of injections and gradually becomes negative after the second or third courses of treatment.

Furthermore, of the eighteen cases observed by Müller for a longer period, eleven showed a negative Wassermann four weeks after the completion of the course of treatment, while in the remaining patients the sero-reaction became negative within twelve to fourteen weeks after treatment.

Untoward Effects and Precautions

Very few untoward effects following bismuth treatment have been reported. The one most frequently mentioned is a tendency toward stomatitis similar to but usually not so severe as that following the use of mercury. A marginal pigmentation generally appears in the gums, analogous to the well known lead line. But, with careful dosage, Pomaret prevented even this reaction. The stomatitis is generally a fusospirillary infection similar to that of Vincent's angina, and disappears within two weeks after bismuth treatment is discontinued. Its disappearance may be facilitated by the methods employed in the treatment of Vincent's angina, and may even be rapidly cured by the local application of powdered potassium tartrobismuthate. Bismuth sulfide appears in the saliva, and in a few cases reactions, such as cramps, malaise, nausea and headache have been observed; but the reactions of all types were generally mild and did not seriously interfere with the progress of the treatment.

A few words may now be said with regard to precautions to be taken in the treatment outlined above. These are: (1) the absolute contraindication of the intravenous route of administration, (2) the necessary care of the hygiene of the mouth on the part of the patient during the treatment, and (3) the indispensable supervision of the renal function, on account of the occasional complication, albuminuria, although Müller did not observe a single case of the latter in any of his patients.

In conclusion, it may be pointed out that the indications for the employment of bismuth in the treatment of syphilis, upon which all clinicians are agreed, are: (1) cases affected with specific lesions which are resistent to arsenic and mercury; (2) cases in which relapses occur; (3) and patients who show intolerance to arsenic and mercury.

Cancer of the Breast

A Study of 250 Cases in Private Practice

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What Can Be Accomplished

Turning from this discouraging side of the cancer problem, we will consider what can be accomplished in primary cases by intelligent, faithful, and prolonged treatment along medicinal lines. Unfortunately, the actual number of satisfactory cases to be reported is not as great as could be desired, as it has been found impossible to trace many patients who have come from all parts of the country, many follow-up letters being returned by the Post Office, as "unknown", or "removed" and in many cases no response came, even when doctors, families, or relatives were addressed. However, on carefully studying the recorded histories, there were found a relatively large number of patients observed, 5, 10, 16, 18, and even up to 28 years after being first seen and remaining entirely well. The latter, the most striking case, may be mentioned first. This case was reported in my last book, as having been carefully watched for over 16 years, and that when examined thoroughly at the last visit, the breast was absolutely normal. Recently, I got trace of the patient, 12 years later. She was well, at the age of 73, having remained well 28 years after her first visit. The case is as follows:

Case 16.—Miss B. M. L., aged 45, was sent to me January 4, 1894, with a well defined carcinoma of the left breast, so diagnosed by several good medical men, one of them a surgeon of prominence who urged an immediate operation which was to have been performed on the day following that when she came to me. The mass had been noticed a month or so and had steadily enlarged and begun to ulcerate; it was associated with slight axillary adenopathy. When first seen, there was a hard mass, nearly 2 inches in diameter, in the upper outer quadrant, well defined. While it was not painful on moderate handling, she experienced pain in it, subsequently. There was some adherence to the skin which was slightly ulcerated near the center of the mass.

The patient was placed on full dietary and medicinal treatment. Two months later, the lump was recorded as less distinct and flatter, and, within eleven months, it had entirely disappeared. A month or two later, she had some pain in the breast with the menstrual disturbance connected with the menopause, but careful examination revealed no trace of the tumor. On November 8, 1905, she called, bringing a relative for treatment, and careful examination showed the breast perfectly normal. Again five years later, she called, with another trouble, and the breast was found to have remained perfectly well, sixteen years after first coming for treatment. Then I reported the case. Lately, she sent me another breast case, and I learned her address and visited her in December, 1922. She was in good health, and the breast was found to be normal. She is now 73 years of age and it is almost 29 years since she first came under my care, and avoided the surgical operation which had been urged, and which was prepared for the next day.

Case 17.—Mrs. H. R., aged 30, had been under my care for acne, off and on for some time, when, on October 26, 1904, she called my attention to a characteristic lump about 1 inch in diameter, just below the nipple of the right breast, for which she had consulted her family physician, as she had felt pain in it since July. She was a nervous, excitable woman, under great strain, eating freely and indulging in a good deal of alcoholics. Not being willing to have the operation advised, she consulted me and was placed on a strict diet and thorough medicinal treatment. On January 6, 1905, it was recorded that the breast was normal, with no trace of the lump, and with absolutely no pain. For several months thereafter, it was constantly recorded that the breast remained normal.

About 4 years after the disappearance of the tumor in the right breast, when she had neglected treatment for some time and had lived pretty high, using liquor freely, a tumor developed in the left breast, with more or less pain. Under careful dietetic and medicinal treatment, this subsided and within a few months both breasts were normal. She was a very difficult patient to manage, with a systolic blood pressure of from 200 to 250, diastolic 110 to 130. She had never been pregnant and her menses continued until after her 47th year of age. Seen quite recently, the breasts remained normal, 18 years after her first visit. Experience teaches what would have been the

result had the right breast been removed surgically, as advised, at that time.

Case 18.—Miss J. M. A., aged 45, a hard working city missionary, under great mental and physical strain, was referred to me October 12, 1905, for a tumor in the left breast, above the nipple, which had existed for some months, awaking her at night with pain, and also annoying her with numb, shooting pain in the day time. She had seen many medical men and surgeons, all diagnosing cancer, but had declined the operation constantly urged. Under rigid dietetic and medicinal treatment, the pain had entirely ceased, within two months, and there was very little of the trouble left in the breast. On January 5, 1905, it was recorded that both breasts were the same, with no trace of the former tumor in the left breast. She was repeatedly seen for nine years, always in active work, and recently was seen again, in perfect health and rather stout, with absolutely no remains of the tumor, fully 17 years after her first visit.

Case 19.—Mrs. B. E. C., aged 44, was first seen on account of trouble in the right breast, on September 19, 1892. She then had a hard, flat tumor in the outer lower segment, 1½ inches in diameter, rather sharply defined, and tender on pressure at the sides. This she had noticed about two months. Not satisfied with my diagnosis of cancer and hesitating at the thought of prolonged medicinal treatment, she consulted a well known, prominent surgeon, who pronounced the tumor unquestionably as cancer and urged its instant removal. This I did not know until she informed me of it, some time later, after the tumor had entirely disappeared under treatment. I saw her at frequent intervals for six months, and the breast became entirely normal. Four years later, she was seen again, in regard to the menopause, which she was undergoing, and the breast was found still to be normal. She was yet maintaining her diet. Nearly three years later, I learned from her husband that she was in perfect health, with absolutely no breast trouble, and for eight years later, while he himself was under occasional treatment, I learned repeatedly that she remained perfectly well. Thus, she continued entirely free from cancer for over 16 years after beginning treatment, with no recurrence of the breast tumor. The couple lived in a neighboring town in New Jersey, and, if there had been any recurrence, I should certainly have known of it, as her husband was a distant relative and overjoyed at her escape from the knife.

Case 20.—Miss G. M., aged 44, a hard-worked public-school teacher, came to me November 13, 1905. She had struck the breast in a fall sixteen years before, but the effects had passed off, and there were no sensations for 7 or 8 years, when she began to have pain aggravated at menstruation. During the past year, there was a lump formed, with constant pain; also more recently pain was felt in the axilla, which kept her from school. A number of medical men had always diagnosed cancer, and a surgeon of prominence in one of the large hospitals had strongly pressed for immediate operation.

When first seen, there was a tumor 2 or 3 inches in diameter, sharply defined and nodular on the surface, in the upper segment of the left breast, with enlarged glands in the axilla. She had long been constipated and passed only about 60 percent of the amount of urinary solids proper for her weight and age. Under very active treatment, it was recorded, four weeks later, that there had been hardly any sensation in the breast during the previous week, whereas for the last months she had been kept from her work in school by the severe pain in the breast and in the axilla. The tumor had already diminished materially in size; it was only moderately hard. The patient was out of doors every day and was feeling much better. One month later, it was recorded that the breast was very well and on examination was found to be almost the same as the other, there being some general caking in both. She had had no pain for some time. One month or so later, she was again at her duties as a public-school teacher, which she has continued since, with rare exceptions when some temporary ailment prevented. The lump in the breast did not wholly disappear for a month or two later, but, on April 7, it was found that the left breast was the same as the other and that no glands could be felt in the axilla.

From that time to the present, this lady has had a variety of troubles, rheumatic and others, and it has been difficult to keep up a correct action of the bowels and kidneys. But, in spite of strenuous and often exhausting work as a New York City public-school teacher, she had had no return of the breast trouble up to the time of my first report of the case, in 1915, that is, over 9 years. A sister, aged 60, had then just died, with cancer of the stomach, in a distant country town. It is now over 7 years since then and from friends I learn that the patient remains entirely well and free from cancer. This is over 16 years from the date of her first visit.

Case 21.—Mrs. J. T. T., a farmer's wife, aged 38, was seen in Norfolk, Conn., on August 11, 1914. She had been confined with her first child four months previously, but had not nursed the child and had had no trouble with the breast. Four weeks before her visit, she had noticed a tumor in the upper, outer segment of the left breast, which was increasing steadily, attended with considerable pain. She had seen an excellent surgeon in a neighboring city, who diagnosed cancer and urged instant operation.

When first seen, there was a mass the size of an egg, hard and well defined, tender on pressure and with enlarged axillary glands. Under very active dietetic and medicinal treatment, including thyroid substance, and iron, and 50 percent ichthyol locally, with Hebra's diachylon ointment later, the lump disappeared slowly. Just one year subsequently, it was recorded that the breast was perfectly normal, with no trace of the tumor or of axillary adenopathy. The patient was again confined of a healthy child, in June, 1916, and the surgeon, who had made the original diagnosis of cancer and urged immediate surgical removal, reported the breast as perfectly normal. Seen very recently, this past summer, it was found that she remains perfectly well and free from cancer, 8 years after her first visit to me.

Case 22.—Mrs. S. J., aged 33, first noticed a lump in the right breast, two months prior to her first visit, at my hospital medical clinic for cancer, February 28, 1917. This lump had steadily increased in size until seen, when it was fully 1½ inches in either direction, in about the middle line above the nipple, with sharp, rather hard edges, and a palpable gland in the axilla. The patient had been having sharp pains radiating from the breast to the axilla. For future reference, I called in the surgeon in attendance, who at once recognized it as carcinoma and urged immediate removal as the only hope for the patient.

The lady was extremely constipated, the mouth dry and the saliva acid. Being placed on strict dietetic and medicinal measures, it was recorded in two weeks that she felt better than she had done for a year. The lump was materially smaller, though the edges were still sharp and nodular. There was no pain except on extreme exertion in doing her own housework and caring for two small children who always accompanied her. She was very faithful to treatment, usually coming every week. Six months later, it was recorded that the mass had markedly diminished, it being about 1 inch in diameter, very shallow, and with absolutely no pain. Six months later, practically nothing could be felt, not even adenopathy.

A little over a year after her first visit, a physician visiting my clinic was told that this patient had cancer, and he was asked to tell which breast had been affected. After careful examination, he decided that it must have the *left* breast (instead of the right), as there was slight chronic mastitis there. At intervals, later, four other physicians and surgeons made the same mistake in diagnosis.

One of my assistants reported to me a similar case, where the cancerous mass had disappeared under the same treatment and, after a year, a doctor had made a similar mistake after examining both breasts. Within the first year, she had been again pregnant, the child dying soon after birth. She reported for observation and for some treatments for four years. Nothing could be found in either breast, at any time, nor any adenopathy. It is now nearly six years since her first visit, and she has given birth to still another, living, child.

Prolonged Treatment Needed

It is unnecessary to go into much more detail regarding the very many other cases of breast cancer that have passed under my observation and yielded more or less faithful obedience to all the details of treatment. As already stated, it is very difficult to secure loyal fulfillment of all the necessary and often tedious particulars of treatment for a time sufficiently prolonged to secure the desired result. With the general prevailing view of the hopelessness of cancer, and the opinion, still being taught, and accepted by the laity, that cancer is a local disease and that surgical removal offers the only hope, many patients, after a brief period of treatment, yield to the lure of the spectacular features of surgery, x-rays or radium, even with the possible expectation of recurrence, and are lost sight of, often after one, two, or a few visits. Of our patients, there were 151 who were seen but once, 16 twice, and 13 three or four times, when they ceased coming. There were 173 who were under treatment for one month or less; 12, two months; 4, three months; and 26 for less than a year. On the other hand, 17 have been faithful for 18 months, 19 for 2 years. As already indicated, a very considerable number of those who have remained until discharged were cured, and some of these return at specified intervals, for inspection, even for many years.

As to Recurrence

Cancer is such an insidious disease that,

while surgeons formerly considered freedom from recurrence for three years after operation a cure, this period was lengthened to five years. Now, those who are honest will not set any time, but rather look for recurrence, which is often seen ten, fifteen, twenty-five, or even more years thereafter, as many of us can testify. When, however, the most careful, systemic treatment of carcinosis has been carried out conscientiously for some years, recurrence does not happen and is hardly possible, inasmuch as the cause which produced the first tumor has been overcome. When, however, care is relaxed and the bad habits of living are returned to, as in Case 17, the disease reappears (in this instance in the other breast), soon to yield again to exactly the proper treatment.

This, though, is quite a different story from what happens after surgery, when the patient is simply watched for the return of the trouble, without any intelligent effort being made to overcome the pernicious condition of the system which originated the trouble. For, true cancer is never, even at the first, a wholly local disease, although local irritation may cause its lesion to appear first in some particular place. In the same manner, gout is rightly regarded as a systemic disease, although its first manifestation may occur when the great toe is stepped on. Also, while syphilis is a constitutional disease, its late lesions, or gummata, often arise at the site of an injury. Consequently, it is unreasonable to assert that the removal, by the knife, x-ray or radium, of the primary lesion will cure the disease. All of us have seen plenty of cases of breast cancer where the mass was excised immediately after its discovery and where yet there was recurrence or fresh development of the disease after a longer or shorter period of time.

A single interesting case or two, still under observation and treatment, may aid to a clearer understanding of the subject, although very many more could be given.

Case 23.—*Advanced primary cancer of the breast.* Miss B. C. M., aged 52, a hard working and ambitious school teacher, came to my office, September 14, 1920. Three years before, a small lump had appeared in the upper, outer segment of the right breast, which had been treated for two years by an osteopath. A year before coming, it had opened spontaneously and a surgeon wished to remove the breast, which was declined. Since then, the mass had increased, with active and deep ulceration, which has been treated with disinfectants but with no other measures.

When first seen, the whole breast was firm and immovable, presenting a deep, ulcerating area of about 2 by 3 inches, with hard, characteristic edges and profuse, offensive discharge. There were several enlarged axillary glands, somewhat movable. The patient could bear no ordinary clothing but came with a loose wrap over the affected breast. She was depressed and anxious, although hopeful and confident that proper systemic treatment would overcome the trouble, which is half the battle in handling these cancer cases. She was still of good color and weighed more than was called for by her height and age; namely, 160 pounds, which was reduced by treatment to 144 pounds when seen February 5th.

The lady had always been constipated and had piles and an anal fissure. The saliva was very acid. Sleep much disturbed by the great pain in the breast. Being placed on very strict diet, and thorough internal and external medicinal treatment, the patient experienced a change in only 2 weeks that was remarkable. She slept perfectly, with no pain (no opiate was given); the breast appeared better and the discharge lessened; soon after this, the hardened edges flattened down, with signs of cicatrization here and there. Small doses of thyroid were then given after eating, but this soon disagreed with her and was changed to a capsule of apiol, 5 grains after eating and at bedtime. From time to time, various remedies were required to meet digestive, rheumatic, nervous, and other symptoms.

This lady has now been under persistent and faithful medicinal treatment, over two years and a quarter, and the change in her whole condition from first to last has been most remarkable in comparison with the previous and usual progress in such cases. Under ordinary circumstances, she would undoubtedly have been in her grave a year or more ago, while the misery and suffering involved would have been indescribable. Her lesion was considered inoperable by an intelligent surgeon when first seen.

The disease still exists in the breast, but is hardly a shadow of that when first seen, and it will require some months yet of diligent treatment to procure a perfect result. The patient has been good enough to present herself twice, at the weekly conference in the Memorial Hospital, in May, 1921 with a great ulcerating mass, and in December, with the mass much shrunken, the ulceration diminished by one-third, and signs of epithelial healthy growth in many places. At this second visit, I said that I expected to present her again

in a year with the lesion healed. This visit has not yet been accomplished, as she is lame and lives a long distance from the hospital, and the weather is bad. When I called on her very recently, January 24, she said, "Why did you not wait a week longer, until all was perfectly healed over?"

During all this time, from first to last, there has been a steady gain week by week; she has been cheerful and happy, going out as she pleased, and traveling to Florida for some weeks, and one can hardly believe that it is the same person who, on September 24, 1920, first came, a perfect wreck, who would not be given six months to live. She has not had a particle of pain, never requiring an opiate or sedative from the first, and, as the sister remarks, "wants to do too much." It is well indeed that she has had such fortitude and patience and perfect obedience in following out all the necessary details of treatment. She has used many, many pounds of calamine and zinc ointment and, no doubt, even gallons of internal remedies of one kind or other.

When seen recently, the whole remains of the breast were soft, and quite flat, with no ulceration but some little redness and two glazed places. But, over a considerable portion of the original ulcerated surface, the skin was almost normal, and the nipple, which was formerly retracted, was protuberant, though not quite as much as the other one. The whole change, in this almost two and one-half years, is certainly remarkable, and shows conclusively that carcinosis can be checked and that the mutinous cells can be dispersed by thorough and complete dietetic, hygienic, and medicinal treatment, even in a totally inoperable case.

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One more, recent, case may be added to show what one continually sees in following out most carefully this line of treatment.

Case 24.—*Large primary cancer of the breast, with rapid disappearance.* Mrs. M. B. R., aged 46, a hard-working public-school teacher, a lady of great culture, came to me on March 22, 1921, weighing 110 pounds, while her height and age called for 147 pounds. She had never borne children, being only very recently married. About February 8, while bathing, she noticed a small lump in the lower middle segment of the left breast, which had persisted, continually enlarging until the time of her visit. There was then a mass the size of half a lemon, hard and nodular, with some pain during the past week. But no axillary glands could be discovered, although there must have been some deep lymphatic permeation, judging from the time which had elapsed. The bowels were constipated, the tongue was tolerably clean and the saliva moderately acid. She was placed on the usual mixture of acetate of potassium, nux vomica, cascara, and rumex, with capsules of 2 grains of thyroid extract after each meal, and the "green-card diet."

Eleven days later, it was recorded that the mass was smaller and softer (which she herself had noted) and the pain had left. A month later, there was still great improvement in the breast, and the lump was not one-half the size of what it was when first seen, although still sharply defined. On July 18, it was noted that the mass had decidedly lessened, seeming hardly one quarter the original size, flattened, and loosely movable.

The patient's weight ran down, under treatment, to 103½ pounds during the very hot summer, and the thyroid was stopped, warm milk being given pure and alone, one hour before the evening meal, with half an hour rest after, and a pill of iron and quinine citrate after each meal. On September 26, it was found that there was "no trace of the mass in the breast, and no enlarged glands in the axilla or axillary fold," and she weighed 110½ pounds. On June 7, she wrote from her home in the country that she was "very well, gaining weight, and felt better than ever at the close of school." She was warned not to neglect diet or remedies, and to call soon. I did not see her until July 27, when she felt very well, weighing 120½, the most for four or five years. Both breasts were absolutely normal. On January 26, 1922, it is noted that no trace of the tumor could be found in the breast, nor were any enlarged glands discernible. On April 8, she weighed 117½ pounds, although she had just passed through an attack of grip, and both breasts were found absolutely normal. She still comes from a town in New Jersey every two or three months for observation and, when last seen, on December 21, she was the picture of health, weighing 126½ pounds, though working hard in school during all the treatment. There was not the slightest sign or even thought of her former threatening breast trouble.

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Space does not permit of a further elaboration of the subject, but many more cases could be cited which had been doing well two, three, five, and more years, in which the cancer could be spoken of as really *cured,* with absolutely no expectation of a recurrence, pro-

viding the patient lives in such a manner that there shall be no more mutiny of the body cells. All this may seem very optimistic, but I have always been an optimist in medicine, believing that for everything there is a cause, and that, while there is life, there is hope. That the cause of cancer has not been determined earlier, is a sad reflection on medical genius; but it is partly explained by the fact that it has been sought for mainly by experimentation in the laboratory on lower animals, and with the test tube and microscope, and not enough in human beings, at the bedside, and through examination of the body chemistry.

In Memory of Dr. Robert Gray

"The first English-speaking practitioner who ever used the active principles of the Galenic substances."

By J. M. FRENCH, Milford, Mass.

THE great heart of Robert Gray is at rest. After nearly ninety-three years of tireless effort for suffering humanity, this remarkable man has passed from our ken.

We know little of the manner of his going, and nothing definite as to the vicissitudes through which he must have passed in his last days. The little information which the writer has been able to obtain came through the postmaster of Pichucalco, Chiapas, Mexico, of which city Dr. Gray had been a resident since a short time after the close of our Civil War, in 1865.

He stated briefly that Señor Gray died on the 12th of August, 1922, in the village of Juarez, a section of Pichucalco, in which he had been living for some time; and that, according to the data handed in, the cause of his death was exhaustion of vitality due to old age. He added that Dr. Gray had many good friends in the vicinity, from whom he received well-merited honors on the occasion when his body was deposited in its last resting-place in the cemetery at Juarez. With these brief facts, we must be content.

A Pathetic Figure

Robert Gray's childhood was bright and happy, and his young manhood stirring and eventful; but the years of his maturity and old age must have been filled with indescribable loneliness and sadness, as the result of his voluntary exile from his native land in uncongenial surroundings. Yet, even these were brightened by his cheerful acceptance of the hard conditions of life for himself, and his unremitting efforts to better the conditions of those around him. Shut out from all personal intercourse with his equals, and with only his pen and typewriter to put him in touch with his kind, few men have ever illustrated better than he, the truth of the words of the poet,

"My mind to me a kingdom is."

It is doubtful if any of the present readers of CLINICAL MEDICINE ever met Dr. Gray. Yet, if we may judge by the general interest which has always been shown in his writings, there must be many among us who had come to admire his virile personality, and some who had learned to look upon him as a valued friend. Certainly, this was the case with the writer, to whom the brief notice of his death, contained in the "CLINIC" issue of last November, brought a sharp sense of personal loss. I had come to know him first through his writings in a wide circle of medical journals, and later by a personal correspondence with him covering a considerable number of years, in which had been revealed to me something of the heart of the man, which had endeared him to me beyond the common passer-by.

Ancestry and Childhood

When it comes to setting down the outlines of his life, we find that much of our knowledge of him is indefinite and that many of the things, which are usually looked upon as essential in a biography, are lacking in his case. As an illustration of this, take his own statement: "Long years ago, I knew something of the genealogy of my family for some five or six centuries back, including the lapse of time since the age of blending with the Jamestown settlement; but, now, I can recall nothing sufficiently positive to place into a living page, more than that the mother of my race and line was bought with 500 pounds of tobacco at Jamestown, and that our men lived out their century, save when violence or accident intervened." But, in a letter written to me a few years earlier, he gave it as his great grandfather who was bought at Jamestown, and the price as 300 pounds of tobacco. Obviously, these discrepancies are not due to any intent to mislead but only to a loss of the vivid memory of youth, in the

course of the long years of an active life. In no case do they affect the essentials of the narrative.

What we know, then, as to his ancestry, is, that he was of English descent and that his first ancestors in this country came with the early settlers of Jamestown. He was born on the 31st day of October, 1829. I cannot find the locality of his birth anywhere definitely given, but it was somewhere in the region about New Orleans and, therefore, probably in Louisiana.

In a letter written to me, in 1909, he describes himself as follows: "I am six feet tall, well-proportioned, athletic, physiognomy not unlike that of the Lees of Virginia, of *ante-bellum* birth. I am quick, impatient, sensitive for cause, yet always of apparently cheerful mood, this more intensely when really most contrary to such sentiments; masking under a placid exterior the rankling hell within that at times wields a presumptuous sway."

In the same letter, he thus responds to my request for his photograph: "Photo an impossibility, not having had one taken in fifty years; nearest photographer sixty miles distant, belly-deep in mud all the way. CLINICAL MEDICINE requested, for January; I could not comply. My photo at this moment, three months absent from barber, covered from head to foot with mud, might be serviceable to frighten away rats and crows, but certainly improper to adorn an up-to-date office."

However, in a letter written some three years later, he says: "One thing I am able to tell you that complies with old requests of yours. The photographic agony was passed through in September, and has been reproduced for CLINICAL MEDICINE, and will probably reach the light of day in the December or January number. The paper that will be printed with them will tell you enough of what I have been doing the past year to show you a vital feature of prophylactic influence that tells more for health than a thousand rusty homilies ever taught."

I trust that these photographs—the only ones in existence, so far as I know—will be hunted up by the editor, and made to do service in connection with this paper, imparting a realism to my story which nothing else can do. (See Frontispiece.—ED.)

Gray's family were extensive land and slave owners, some of them large distillers of apple and peach spirits and manufacturers of plug and smoking tobacco. His father was evidently a man of good ability and strong character, the manager of a large plantation, and successful in business. His surroundings were therefore those of abundance and almost of luxury for those days and in that new country.

He speaks affectionately of a cousin of his father, who was educated in Paris, had been a nun for 15 years, studied medicine in the convent, and made her home with his father. She taught him to read and exercised a great influence over his life in its formative period. Another relative who had much to do with the moulding of his character was a wealthy bachelor uncle, his mother's brother, ever at open rupture with the church, but who contributed to his early mental development by supplying him with a class of literature not permitted in his family and interdicted by the church.

Plans for Education

It was his father's plan that he, the only son, should inherit the property and carry on the work of the family. To this end, he arranged that Robert should first fit himself thoroughly for the work of a physician, and should then establish a large plantation, of which he should be the proprietor, manager, and physician. Robert had no interest in this plan, desiring rather to enter West Point and fit himself for a military career. However, he yielded to his father's will and accepted the path that was marked out for him, realizing that the way would be made easy for him. "I presume," he says, "that scarcely one in a hundred had the favorable start that was mine, with no check or setback anywhere. Credit for having battled successfully against direful opposing difficulties I cannot claim; because I know not the practical definition of such a combat, save as I was forced into a profession contrary to my predilection; in which I had sufficient common sense to acquiesce and make the best of what I could not honorably escape."

He does not anywhere set himself up as a paragon of perfection. "In my long career of intense vicissitudes," he says, "I have been absolutely true to no more than three principles: the preservation of my health; the Confederate cause; and my professional obligations, in all the bearings of their multiple relations."

His elementary education was begun, and apparently largely carried on, in his own home. He speaks of his French tutors and of his studies in English, Latin, and French. He was an inveterate reader and gained his education largely from the various libraries that were at his command. He was evidently a brilliant student, keen to observe, quick to

understand, and of good judgment. So, he was soon ready for Paris.

But, why Paris? This is a question I have often asked myself, but for which I have never found a satisfactory answer. He was of English ancestry. Why was he not sent to London? His cousin had been educated in Paris, and all his inclinations and associations throughout his life seem to have been with France rather than England. On this fact, all his future career appears to have depended.

So it came about that, in due time, he set out for Paris, bearing letters to some of the most noted physicians and medical teachers of this great medical center. Whatever may have been the contents of these letters, those who received them gave the bearer a cordial welcome and devoted themselves assiduously to the work of directing his activities in the wisest channels. Instead of taking the usual course in one of the best medical colleges, his friends advised private instruction, with constant attendance at the best lectures, clinics, and courses of hospital instruction and observation, all of which combined to give him a far more intimate and elaborate insight into the nature and treatment of all classes of disease than he could have obtained in any other way. At the end of four years, he was not only able to pass the most rigid examination and secure a high-class diploma, but he had an unusual amount of practical experience, both medical and surgical.

Two things seem to have been especially impressed upon him during these four years of study. The first was, the supreme importance of surgery which greatly appealed to him as the one dependable means of getting results. The other was, the comparative impotence of therapeutics, as judged by the standard treatment of the day. Even the best of the Galenic remedies did not impress him as of much value. It was the time and place of therapeutic nihilism, and young Doctor Gray absorbed the doctrine to its limit.

Paris having done its work for him, he turned his back upon it; and he never saw it again. Returning to New Orleans, he spent a year or more in that gay city, gaining a varied experience, valuable and otherwise. Then he went back to his old home and, in obedience to his father's wish, began the unwelcome task of building a plantation in the wilderness, with hired slaves and their overseers as his workmen. He did not believe in slavery. As he said, "From my childhood, I had felt some vague repugnance to slavery, especially the flogging feature. I sternly prohibited this on my works, even among the slaves of the contractors. But, I had been born and nurtured in the hotbed of slavery; and I was southern, right or wrong, to the marrow of my bones."

For six long years, he continued working at his unwelcome task, until its completion was in sight. Plans were shaping themselves in his mind for a home of his own, with his loved one beside him.

Then Came War

Then, all unexpectedly, on a November morning in 1860, as he opened his mail, which came but seldom, his eyes were blinded by the staring headlines, as he read the startling news that came to him as "the harbinger of the blackest, most portentous cloud of war that ever darkled over cultured intellect and refined civilization." This could have been nothing less than the news of the election of Lincoln as President; and well he knew its portent.

Instantly he stopped the work that was so near its completion, dismissed the carpenters, sent home the slaves and their overseers, "and never more saw that haunted purgatory wherein I had passed six fearfully expiating years. How strange it seems to me tonight that men could deliberate in cold blood, with tranquil nerves, on the perpetration of that ghastly fratricide. I participated in such deliberations, with undemonstrative acquiescence, with the sentiments of a polished bosom suppressed, my personal destiny being indifferently thrown into the seething vortex of my fair native land. And, tonight, I regard all that direful scourge as the legitimate fruit of the curse of slavery having been barnacled on to the constitution of American Independence."

He returned to his home, his family, and his plighted Carrie, without warning. No one questioned why he had come. They knew he must come. His father had already raised and organized a company of cavalry, and now urged his son to raise a regiment and take it to the front.

"I told my father that West Point, which he had refused me, would have made such destiny my proper ambition; but that Paris had taught me far different lessons; that any drop of blood shed by me in that miserable brother-murdering would be spilt in trying to save life, by treating the wounded in the best possible manner; that my part with the murderous crew was not, to shed blood. And I remained inflexible to the last day of that savage butchery."

To his promised bride, he explained that

he was not going into the armed service, but would be a volunteer first-aid surgeon in the rear shadow of the firing line; not enlisted in the Confederate service, nor on duty save in time of battle, or for such time as he might be useful to the wounded men who could not promptly be moved to distant hospitals; and she replied that she would spend her time and money in ministering to the wants of the families of the poor men who might be absent in the army.

In this way, he went through the four years of the War of the Rebellion, loyal to the South in every thought of his heart, yet knowing from the first that theirs was a lost cause. He did his duty faithfully as a surgeon, ministering to the sick and wounded of both armies impartially, as occasion demanded. Not only was he never in the pay of the Confederate government, but he paid his own expenses and, in addition, sent to Paris and secured the services of one of his most intimate friends and old-time comrades in the medical school there, to come with him and act as his assistant.

In all his story, he has no words of bitterness for the Northern soldiers or the Northern people. Twice he was wounded, the last time being incapacitated for several months. At his first knowledge of Lee's surrender, he realized that there was nothing more to be done. Having already released his friend and assistant, he now gave up the unequal strife as hopeless and set out for home. The result I quote from a personal letter.

"My own life was destroyed and entombed in the grave of the Lost Cause. When all was over, I returned to the old homestead. The last of my father's family reposed in the silent churchyard. The blackened chimneys alone remained, attesting the hell of war that had raged over the scenes of my tender years. Not fowl, nor animal, nor slave, nor fence-rail was anywhere visible; while she, the beloved and only remaining hope, was where the sods of the valley were not dry over her lonely bed—the only girl that ever held the chamber of my heart all her own, the loved and the lost."

Turning from this mournful scene, he hastened to execute a quit-claim deed to the vast landed estates that were then his alone, for a few hundred dollars, and set out on his journey southward, which was ended only when he had arrived in the most unhealthy belt of the American continent, the Gulf coast of southern Mexico, where yellow fever was indigenous, and where he felt that his services would be more needed than anywhere else, and also where the end of his own career could not be long delayed.

"And from that day to this," he concludes, "I have been exposed to deadly contagious diseases, with no personal object or desire to live, yet never once sick or in physical pain, living a dreamy, enchanted life, the sleepless slave of medical science and suffering humanity."

Therapeutic Difficulties

When Dr. Gray left the schools of Paris, he was a full-fledged medical nihilist. To him, surgery was the real thing, while therapeutics was but a makeshift. His six years of plantation-building but strengthened him in this attitude. When he struck the hot belt around Vera Cruz, new lessons tending in the same direction awaited him. Here he found a virulent epidemic of yellow fever rapidly decimating the rural districts. So far as he could judge, no medicinal treatment made much difference with the result. A very large proportion of the sick ones died. Without a knowledge of even the elements of the treatment of this dread disease, but with the confidence born of ignorance, he threw himself into the breach and set himself to produce results.

But, though he made the most of the methods and remedies which had been taught him in the schools, it was all to little avail. "As Sangrado told Gil Blas," he writes, "most of my patients died." But, so did the patients of the other doctors about him. One lesson he learned from an old Frenchman who, though half drunk most of the time, counseled him against the use of intoxicants in this disease—advice which proved good and was always followed.

Nor was his confidence in the efficacy of medicinal treatment increased by a comparison of the mortality in two adjacent fields, similarly situated and containing about the same number of inhabitants. In one of these, no medical man was employed from first to last, and 31 persons died. In the other, nearly all had more or less medical attention, and 71 died.

Moreover, his own success in treating his patients was no better than the average, though he had been taught by the best men in Paris. With the other prevalent diseases, such as malaria, pernicious fever, and cholera, the results were not much different. One fundamental lesson he soon learned: that the chief causes of all these diseases were heat, filth, and ignorance—all hard to overcome.

In the case of smallpox, he was somewhat better prepared than his neighbors, since he was well versed in the lore of vaccination and fully prepared to carry it out; which he did with results that were very satisfactory when compared with those of others. But, in the actual treatment, little could be accomplished by any means at his command.

Meantime, he kept in correspondence with his old Paris classmate and Civil-War assistant through whom he was informed to some extent of the progress of events in Europe and the world at large. From this comrade, he received the assurance that he was master of the best in the medical line, and had the most approved medicines known to science sent direct from Paris. Accepting these statements as facts, he counted surgery and vaccination as his only strongholds as a physician, with therapeutics as a poor third, and no light showing for the future. Obstetrics in that country was in charge of the midwife, except in cases needing surgery.

A Ray of Light

Then, all at once, out of darkness came a light. "The first glint of Dr. Kane's midnight sun," he writes, "did not flash a ray of more dazzling light into polar darkness, than that which burst upon my benighted mind, late in the year 1872, when the propaganda literature of Chanteaud and Burggraeve, of Paris, together with a supply of their dosimetric tablets and granules of the Galenic substances, reached me in the somber sequestration of the torrid wilds of Mexico. And that precious contribution of my war-comrade was supported by the hearty endorsement of the brightest clinical scientists of Paris, who had proved out these new remedies to a finish, and cried, *'Eureka!'* And, in the same mail, there came a letter from the venerable Doctor Hippolite Hérard, in which he assured me that my long-deplored want had now at last been supplied by Dr. Adolph Burggraeve, professor in the University of Ghent—the Christ of Medicine."

This discovery of the tools and methods of Dosimetry, or, as we know it today, Alkaloidal Therapeutics, or Active-Principle Medication, marked the turning point in his professional life. He declares that this was the birth and baptism of his legitimate clinical career, endowing him with the ability to save desperately sick patients from whom the white-winged dove of Hope had fled. And, here, he makes this notable statement, the probabilities of which are corroborated by the facts of history:

"At this point, I venture to make the statement that I have positive certainty that I was the first English-speaking practitioner who ever used the active principles of Galenic substances; for, my supply was purchased from the first batch ever prepared for the medical profession in the laboratory of the famous French chemist, Charles Chanteaud."

Confident Therapy

From this time, he tells us, he began to live a new life, a life absolutely devoted to the sick members of suffering humankind in the tropical lagoons and jungles. He no longer sought perilous practice in order to shorten his days, having become convinced that he was immune to any infection; neither did he shirk the most dangerous work that offered itself in all his field. He guarded his health with zealous care by living according to Nature's laws. He buried his old past and began a new future, filled with confidence in his ability to do great things for his sick people and with a strong desire to serve. These two ideas seem to have dominated all the rest of his life, and to have contributed to his own health and happiness as well as to the welfare of his patients.

As he grew in experience with and confidence in the improved system of medication, his mind began to reach out beyond the bounds of his daily practice and to take an interest in its progress in other parts of the world. He had taken no American journals; for, as he frankly says, he did not know of any which he thought would be likely to be useful to him. The most of his friends were in France. His reading matter and his medicines came from France. But, he did not often write for the French journals, "knowing that the elegant practice of France and Belgium could not be greatly interested in the backwoods practice of Mexico."

Now, however, he began to send to the United States for one and another of our medical journals, and he was somewhat surprised to learn that Dosimetry was bitterly opposed by the great lights of the medical profession in America—a course very unlike that pursued in France, where the great bulk of the physicians received it with enthusiasm. So, he resolved to take a hand in the discussion, and began to write short contributions for one and another of the American journals, in which he gave brief hints of the valuable services he had received from certain French preparations probably unknown to either his readers or the editors who printed his letters.

These naturally excited much curiosity and

brought him many letters from the readers, asking for further information. For these inquiries, he had already prepared printed replies, giving the outlines of the new system of medication, which he sent direct to the individual inquirers, knowing that the editors would at that time on no account have printed a word in relation to the same. His answers also advised the writers where they could find fuller instruction in English and where to secure the remedies advised. Finally, so much interest was aroused in the profession generally, that the editors who, before, would have refused his contributions, now began to ask him to write something for their journals —which he willingly did. And, so, he carried the war into the enemy's camp.

It was not until after the ALKALOIDAL CLINIC had been established a number of years, that Dr. Abbott, having learned of Dr. Gray and his work, wrote to him, endeavoring to interest him and sending with his letters a full line of the alkaloids as prepared by him. Finding these fully up to the standard of those made by Chanteaud and much lower in price, Dr. Gray now began their use, and soon he became a frequent and valued contributor to the CLINIC and its successor, CLINICAL MEDICINE.

So great was the interest manifested, not only in the medical facts related by him, but in Dr. Gray as a man, and in his unusual experiences, that, at the urgent request of the readers and editors, he consented to write a series of autobiographical articles, which finally extended through the issues of several years, and from which the facts set forth in this paper were very largely obtained.

He also wrote for a considerable number of other American and for several European journals. In this way, he made many new friends and was made to feel that he had once more a part in the life of the world. Through the American journals, he also renewed his acquaintance with some of the friends of his earlier years. Of these, he speaks particularly of Lawrence, the editor of the *Medical Brief*, Ben Brodnax of Louisiana, and Wm. H. Burgess of Tennessee. All of these men were his comrades in the Confederate Army, and their names are also familiar to the earlier readers of CLINICAL MEDICINE.

As showing his vigorous and telling methods of spreading the propaganda for the alkaloids, the following, written in 1906, for the *New England Alkaloidist*, is a good example:

"I carry 156 active principles, weighing less than five pounds with case, the equivalent of which in Galenic forms would load two mules. I am never ambushed by the enemy, when suddenly confronted by some desperate emergency, no matter what the disease or the complications may be. I have the antidote while time for medication yet remains, and do not have to send prescriptions to a distant drugstore for uncertain remedies—a makeshift often fatal to an imperiled life."

As to his opportunities for gaining skill by experience, he writes: "I have been situated more favorably for experimental practice than has usually been the lot of any other American. Alone, as I have been, in a vast field of big plantations, with numerous desperately sick peon patients, often in times of fearful epidemic crisis, I was able, after years of constant observation, to prognosticate when a patient had but a few hours of life without extraordinary energy of counteracting influence, which I did not vacillate an instant about calling into requisition, usually saving the situation."

The Man, Himself

And here he permits us a brief glimpse of his inner life:

"I do not believe that there lives or has ever lived another medical man as completely estranged from his kind, in family and social relations, as I have been for more than half a century. However, I do enjoy the volunteer friendship of some of the brightest scientific and medical minds in the United States or Europe, who write me letters that reconcile me to my solitary lot, and lighten labors that else might be irksome."

He did not claim to be deeply interested in the question of immortality in another world, but he had a very human interest in the immortality of his reputation in this world, as is shown by frequent passages like this: "And yet, there may be waiting for me a funeral, such as never before there was anything like in this weird, quaint hamlet, where the poor and the wretched have never called me in vain."

And we may rejoice in the apparent fulfilment of this anticipation on his part, as indicated in the letter from the postmaster of Pichucalco, from which I have quoted.

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Into this brief summary is condensed the outline of a lifetime of such hardships and privations, such services and such rewards, such unsatisfied longings, and such reachings out of the unconquered soul, as it has fallen to the lot of but few men to experience.

Psychology and Daily Life

By MAXIMILIAN KERN, Chicago, Illinois

Attending Diagnostician, American Hospital; Late Medical Consultant, U. S. Marine Hospital; Assistant Professor in Endocrinology, General Medical Foundation, Medical College, Chicago, Ill.

THE application of psychological principles has been utilized by mankind long before the first inklings of the science were ever formulated. This is not particularly true of psychology alone. It holds for religion and the natural sciences as well. Man's first view of nature was essentially practical. Long before he ever understood the principles of gravitation, of mensuration, of metallurgy, he built his huts and shot his arrows. The various details upon which, later, the natural sciences were formulated were being gathered in these essentially personally practical ways for numberless centuries. The collection of these facts illustrates the greater part of man's evolution.

It was very much later in history that these various disparate individual experiences were generalized into principles and social science was formulated. This advance marks the rise into the modern era. Heretofore, experiences were individual, vital and demanded quick and personal application. Each individual was guided only by the lessons eked out of his own struggles with the environments. It marks a decided advance, therefore, when he has not only the details of his limited experience but the formulated experience of all mankind to guide his attack on the environment.

Man says, "I will not limit my observation to my immediate practical needs, I will take a broader view of experiences. I will find their controlling principles and will reserve the application of these principles for the future. In this way, I can learn more facts, draw bigger conclusions and so be in better condition to control nature."

So with chemistry and physics; so with psychology. The first view of nature in each one of these sciences was essentially practical. The stone was thrown and skillfully guided in its course without necessarily knowing the laws of potential kinetic energy. The cave man was controlled by shrewd observation of the inner workings of his mind on the part of his mate without knowledge of even the existence of a nervous system. This view contrasts the approach of physical sciences and of psychology. It leads to our definition of psychology.

Consider an hour of time. To the astronomer, it represents one twenty-fourth of the period of time consumed by the earth in rotating on its axis. It is an absolute and mathematically-precise period, uncontrolled and undismayed by human interference. To the individual, however, this same hour, spent witnessing an exciting football game, is a much shorter period of time than if spent under a gruelling cross examination in court. The difference is entirely a matter of viewpoint. The astronomer considers the hour without any relation to consciousness: In fact, he is not a good astronomer unless he is able to abstract entirely the personal element from his consideration. His view is objective. To the psychologist, the hour is regarded, not from the impersonal standpoint, but as a group of experiences of a conscious individual. The hour differs with consciousness. Your hour differs from mine, since it takes the coloring of your experience. The psychologist's view is subjective. We see, then, that, although psychology and the physical sciences are built on the same phenomena, objects of consciousness, they take diametrically opposed views of these objects. Both posit a conscious individual. Both study the objects of his consciousness. Both the physical sciences take an objective view of these objects of consciousness; psychology, a subjective view.

Psychology of Crime

So, let us proceed to elucidate the processes in the psychology of crime.

Let us for the present exclude all questions of mental disease (or the subject of those who are convicted of crime, who intentionally, basely deceive or lie), for, the witness who lies offers absolutely no interest or study to the psychologist, especially in his study of illusions or the detection of the cause of the crime. Thus, we are confronted with the question of unintentional mistakes of a sound mind, and, as psychologists, we must therefore ascertain immediately whether these mistakes are all of the same order—or whether we should label these mistakes as simple illusions of memory.

Memory to be made responsible, is but a matter of course; for, it is generally understood and taken for granted that all of us perceive our surroundings and the changes in our environment uniformly. If there are but

twenty peas in a pod, no one will count them forty. If there were fifty children at a Sunday School class, no one could have counted or seen more or less. If a man be walking with a limp, no one could say that they saw him walk upright. If, however, there is a disagreement as to the validity or the truthfulness of the aforementioned statements, it is not due to perception. For, perception must have been, and always is correct. But, its later reproduction may be false; and, so, in all probabilities, it must be due to some defect or trick of memory.

The ability to perceive and to interpret one's perception varies as greatly in the individual as the differences of the temperature in traveling from pole to pole.

Do we really all perceive things surrounding us in our daily pursuits the same? Do these same things, perceived, define themselves or have the same meaning to us in our absorption of our environment? Are those who judge the doings of man sufficiently aware of how great and varied are the differences between men's perceptions? Do those that are called to judge and consider trouble themselves to thoroughly look into and examine the capacities and habits of the judged, as he moves through the sphere which he believes he observes? One can truthfully answer "no" to these questions. For, if we turn our attentions with the greatest effort to certain parts of a very complex impression, we may yet seek in our recollection, more certain about some parts of which we hardly took any notice than about those to which we devoted our whole attention. Thus, one sees how easy it is for the sound mind and body to err. Then, what other reason exists for the unhealthy or abnormal mind to attach itself to some unwholesome project, the usual outcome being a breach against society, which in itself is a crime, the variation from misdemeanor to actual homicide being only a question of magnitude?

Crime is thus an antisocial act. It is antisocial because it is first antiindividualistic as the part is before the whole; the attack being made upon the organism rather than the individual number.

So, one sees, crime is a psychological manifestation. All responsible action, being primarily postulated along the line of free will, functioned upon moral intentions.

Where freedom ceased, automatism usually makes its start. Beyond that point, one's conduct may be merely a menace, but it can never be a crime; it may be an event, but it can in no sense be an act. It is thus one's conception between the abstract and the concrete, or that of right and wrong. Does wrong antedate right or vice versa?

Right and Wrong

Right is an original moral concept of the whole being. The sense of wrong is simply its negation; but, there cannot be any negation without there being an affirmation. So, one readily sees that no notion of wrong can be predicated without there first being such a preexistent cause.

The very nature of the wrong presupposes an attack upon moral principle. This notion is usually coexistent with the moral ego, the prime principle of which is that of the *right to be,* and any trespass thereon originates the first wrong. The life of man is fettered at every turn by chains of custom, be it among the civilized or the barbarian, for the society even among the ferocious cannibals is far from being swayed by brute force; they all have their rules of what is right and what is wrong.

Custom is the forerunner of law. It must have had its beginning in choice or favor and this choice environed in conscience, or brought on the necessity, must have been swayed by that instinct of self preservation, which is the essence of morality, and thus conserves society in the individual.

Law, which is as variable as is man, receives its mutability from its interpretation at bottom; however, its cardinal principles ever remain the same.

Law regulates the criminal and crime; therefore, crime is but a violation of the law.

The distinction between crime and sin is one of modality rather than of essence. They are generally alike, objectively distinct, and under the challenge of the judicial attribute.

Crime is civil. Sin is personal. Crime is a challenge to the social order. Sin is a violation of the individual conscience. Thus we see in one merely an enlarged expression of the other. The first sin was against some form of deity; the first crime, however, that against the man himself.

Origin of Crime

When and how did crime originate? must now come to the reader's mind. It must have begun with the first inception of life upon this earth; and, if we believe in the theory of evolution, the criminal activity of man is but the reproduction of similar instincts in the lower animals, plus the mental and moral attributes.

Man in his social relation circumscribes the

whole arc of empirical criminality. The earliest form of collective expressions was the family. It is one unit of the social equation, the nucleus around which it rallied. Thus we see that, there being no law or not much law in these ancient days, the criminal tendency was reduced to a minimum.

The enlargement of the family relation or, rather, the subsequent development of the family into the tribal state, altered in a way materially the primitive social problem to that of greater complexity and detail. Cosmic, economic, and local conditions, together with many other subtle personal reasons, contributed to crystallize these transformations, and with it the growing class jealousies and tribal innovations. These tribal distinctions brought with them corresponding incentives to repeated criminal outbreaks and helped to materially swell the first crude tendencies toward homicide and plunder in and without tribal limitations. Thus formed the earliest antisocial instincts of the race and the individual.

Man is as much a wonder in the majority of his ruin as in the plenitude of his power and, to the well-organized mind, affords dire food for thought and contemplation in the one instance as he does admiration in the other. To know him at his best, it is necessary to know him at his worst; for, they both sound the depth of his potentialities and test the range of his possibilities. One class of people celebrate him at the zenith and climax of his possibilities; the psychologist studies him from the beginning, the breaking point in the chain of moral continuity, and so, if possible, tries to trace him in his devious windings of his bipsychological self to the ultimate end.

There are always certain factors necessary in every walk of life to either develop or retard that particular advancement, achievement, and even downfall.

Its Etiology

What then are the sympathetic factors, that enter into, and personally make up the criminal or criminal offender. They are:

1. Cosmic—that which is associated with his daily life; as, dietetic, atmospheric and climatic.

2. Social—his economic, industrial environment.

3. Social surroundings—proper, such as habits, customs, etc.

These factors strongly affect the bulk of crime.

4. Biological—a thorough understanding of his physical, anatomical and physiological characteristics.

Thus we see that we are contending with different classes of criminals, such as instinctive and impulsive recalcitrant; instinctive and habitual offender, being that of occasion. Therefore, we can properly classify the criminals under a few general heads—as (1) The instinctive; he has a predisposing bent toward innate criminal wrongdoing. His biological moral and mental makings are the results of a hereditary taint—and this embodiment leads him to immoral and antisocial acts. (2) The habitual criminal; he is a prototype of the instinctive kind, differing only in that his tendency to offence is not a hereditary one, but merely one of environment. (3) The single offender; having committed a misdemeanor, or a slight wrong, probably due to a passion or impulse, or an exaggerated idea of revenge, he is hailed before the court and, thereby, through the process of law, becomes a criminal.

Now let us study these various forms of criminals psychologically, and thereby come to some conclusion as to the best possible way, from the standpoint of psychology, to prevent the existing tendency to crime and abey its ascendency.

The instinctive criminal has a personality so well defined in his moral retrogression and antisocial tendencies that he stands foremost as a distinctive moral anomaly. He is a being who is at variance with the true instincts of mankind, and is antagonistic to the altruisms that have been evolved from primitive elements of benevolence and justice. We thus note that he is an anomaly in this advanced era of civilization, because now, in the modern form, he represents the primitive with instinctive savagery, which has not been eliminated in past racial evolution by the process of selection. He is thus an antagonist of event, the elementary moral sentiment and self-preservation of mankind.

The interpretation of such a being is a moral and not anthropological one. Like that of other men, his self revelation is simply an unfolding along the lines of common experience, gauged by ordinary test; for, this is the only satisfactory approachment to the real man, the normal and social character.

The greater menace to society is that criminal tendency which is slow and persistent rather than quick and sudden, for this form of offenders is always in our midst. This class has among them the petty offenders who, with feeble intellects and depleted vitality, ally themselves to instinctive vagabondage, and fairly bristle with promiscuous offenses,

rendering them pests to society.

The moral anomaly and representatives of his kind is the sporadic criminal. He commits acts without premeditation. He therefore reveals the purely animal nature unmodified and, so, traces the retrogression successively through savagery into animalism, the basis of true characterization of all criminals; he presents the example *par excellence* of the precipitation of allied primitive instincts with modern environment.

The moral and mental evolution of the criminal is potentially foreshadowed in both, the savage and the child. The psychology of the child is but the psychology of the man who has grown up and acquired an education, but whose repressive agencies tend to modify the innate tendencies.

Education is the equivalent for selection in the ethical evolution. Repressive forces are merely substitutional. Arrested development is the beginning of degeneration and is thus partially an explanation of the criminal phenomena; thus exemplifying racial retrogression in the individual.

Incipient tendencies are the prophetic germs of all future moral fulfilment. Thus it seems probable that the earliest manifestations of criminal tendencies in child life hold in embryonic form the future man. The tendency of the child to vanity, impatience, impulsiveness, revengeful disposition and, sometimes, innate cruelties is reproduced in the adult, as is also the lack of foresight and the purely vegetative tendency to live, thus attesting arrested development, in the underdeveloped man.

The psychological evolution of man is apparently analogous to his progress through the lower rudimentary stage. We see him pass in his moral psychological evolution from the animal, through the savage and barbarian, ultimately in the highest form of enlightened and civilized life. Thus, while physically he illustrates the doctrine of the survival of the fittest, his antisocial side emphasizes the survival of the unfittest, proving him therefore a social anomaly cast upon the banks of the present by the receding waves of past racial retrogression.

Psychological Distinctions

As with the botanist, so with the psychologist of crime, the studies and observations must lay bare the characteristics of their respective study, so as to enable them to draw conclusions therefrom. Thus grouping these salient features together, we analyze the psychological distinction of the criminal.

In the normal individual, the moral sense is so profound that it shines out distinctly as a beacon light and is the great characteristic that distinguishes him from the abnormal.

Moral insensibility is the great characteristic of the degenerate. His ethical defection is so marked that he is, many times, unable to distinguish between right and wrong. The apparent concern in which these abnormals hold their offences, the manifest indignation with which they view their punishment, and the sincerity, with which their every offense is condoned, bear silent testimony to their moral anesthesia. We thus see that the criminal's immorality becomes food for his vanity, and greater crimes become ideals for emulation while, with an innate relish, he loves to recount his unnatural deeds and can look upon the face of his victim with equanimity and complacency.

Cruelty. Lack of Remorse

Associated psychologically with moral insensibility is *cruelty*. History furnishes us with numerous instances of this trait, and it is a well known fact that the sight of blood arouses a latent thirst, even in the natures of those never suspected of such a predisposition. The uncontrollable impulse to a repetition of the first attack of murder, with the unnecessary torture associated with it, amply proves that the underlying stratum of the criminal character is cruelty.

The logical corollary to cruelty is the lack of remorse shown by the perpetrator of crime. The moral excusability that originally incited to criminality refuses to respond. The act being committed, conscience is found wanting.

Were the criminal to show the slightest signs of remorse, such moral reaction would manifestly throw the whole character out of harmony and render it self-contradicting.

The criminal's disposition could never exist with such signs as remorse. This accounts partly for the manifest sincerity with which these offenders deny their guilt, and the calmness with which they meet their doom, protesting their innocence even in the face of apparently sincere religious profession, and showing also their apparent indifference in speaking about their offences as if these were every-day commonplaces.

Impulsiveness

Among the most marked traits in the mental make-up of such a criminal is the lack of foresight. He acts with all natural impulses and confidence of the child. Prescience is not an attribute of his mentality; cause and

effect rarely are brought face to face. This lack of foresight is due probably to a lack of the imaginative property of the mind. Being defective in this essential, he has no clear sense of the future and, so, without deliberation, he recklessly throws himself into wrongdoing.

The wrong-doer, never being satisfied with the existing conditions, is always looking forward for something new, and, like all nomads, is easily moved in his tastes and affiliations intellectually and morally. His range of emotions and impulses is narrow, ever superficial. His resistant powers being impaired, he is badly incompetent to give moral battle.

Though blushing, the honest man's barometer of morality and sensibility is lacking, there still seems to be a something normal about the criminals in that they are ever faithful to their associates or "pals."

Untruthfulness is a peculiarity common to all; but this feature is quite general in the wrong-doer, whereas it is exceptional in the moral man. This peculiarity is probably the outcome of an unrepressed tendency in childhood, which had grown along with him into manhood, where it was strengthened by habit and the necessity of defense.

The intelligence of the criminal is of a rather low grade, verging on the cunning of the savage instinctiveness of the animal and the simplicity of the child.

His thoughts and ideas are illogical, because his mental grasp is so narrow and feeble that he is unable to widen his range of thoughts other than to his immediate surroundings. His knowledge, other than that of a geographical nature due to his continuous traveling, is vile.

The philosophy of this class is very crude, chiefly about quasi-political economy and social economy. His arguments, aimed mostly at the wealthy, are full of sophistry and half truths, with a dogmatic felicity and recklessness of prophecy equaled only by his utter ignorance of fundamental principles. He has no sense of right. Patriotism is not a spontaneous sentiment with him; for, can he love a country wherein laws are made so unjust to him? His attainment and literary tastes, with very few exceptions, are very meager and are confined chiefly to light and sensational novels. His speech is a jargon slang; while his writing is done in unsystematized hieroglyphics.

The most pronounced anomaly in the psychic study of the criminal is his relationship to religion. Crime and religion stand for his moral antithesis and are found not infrequently blended in him in glaring contradiction. Thus, we see him committing terrible crimes on his fellow men, yet devoutly attending to the rites and rituals of his religion. However, this religious affinity is either of an emotional or a mechanical kind, and, as the natural tendency of either is not to make much of essentials, religion leaves him where it finds him.

The generic explanation of the origin of this religious phenomenon lies in the fact that germs of both, the criminalistic and religious instincts, belong to his original nature. As far back as history extends, we find them associated in his organic make-up.

Prevention of Crime

When a man is brought before you suffering from some habit or acquired diseased mind, try to fight his craving and passion and lust for wrongdoing by suggestions; for, prevention alone can bring about a cure.

Man was not born a criminal. If he is a "dope fiend," he did not choose the toxin. No, it was given to him to relieve him from some pain, and so it was injected into him in very small doses at first, presumably to relieve the pain. But the craving for it became irresistible and, when it had reached out and grown to such ruinous proportions, society, instead of offering him a helping hand was ready to despise and condemn him.

So, one sees that it is really society that causes the beginning of crime and the criminal. Then, when the instinct grows to serious proportions and has totally destroyed the man, society, dressed in all its glory, immediately goes heroically to work, not to prevent the first onset of the ruinous habit, but calling upon its emissaries, the minions of the law, the police, and the court—where the sole treatment is punishment by hard labor in a penitentiary.

From a psychological view point, it is utterly vague to speak of a criminal disposition, as such **mental disposition** were unified and located in one area in the brain. Such faculties, we know today, are the outcome of thousands upon thousands of processes, which through proper stimuli are going on in every cell in the brain substance.

We may, however, locate certain areas for certain kinds of sensation, but not wholly for the perception of a thing, and infinitely less for states, complexes, which are built up from ideas, emotions, and volitions.

How does the average man succeed in living a home life? Impressions and thoughts carry

to the mind numberless ideas which awake feelings of pleasure and dislike. The pleasurable idea awakens a desire for and an impulse to realize it in action, but the disagreeable idea awakens its impulse, and that is, to quickly get rid of the source of displeasure. Thus, no further will-act is necessary; we approach the attractive and escape the painful merely by the power of the ideas. The one idea tends to inhibit the other, for, an impulse to do a wrong is overpowered by a more vivid one, which foretells us the danger and holds us back.

The normal, decent individual demands that any ideas which stimulate to a forbidden action shall awaken at the same time a counter-idea which shall inhibit the action, and that these inhibitory ideas shall be properly developed.

Crime, therefore, may result from various reasons:

1. Social inhibitory ideas may not have been properly developed.

2. These inhibitory ideas may not come quickly enough to consciousness or may be too faint.

3. The original ideas with their desire may be too intense or their emotions may be too vehement.

4. The mechanism of inhibition may not be working normally.

30 N. Michigan Ave.

Wars Well Worth Fighting

By EDWARD SWALLOW, Mount Vernon, New York

AS the early man knew it, war consisted chiefly of whacking the other fellow over the head with a club as hard as possible and letting it go at that. As we knew it in the last terrible experience, war consisted of the wholesale destruction of human beings in ways devilish in their conception and fiendish in their execution. The sinking of the "Lusitania," the first use of poison gas, by the Germans, are examples of what man educated in the highest degree in science is capable when warring against another. In his desire to better his condition, to eradicate disease and prolong his life, man has applied his thought and reasoning powers to find out the cause and cure of those ills which afflict the human race. That the vast accumulation of such hard-won knowledge, gained for the purpose of saving and preserving life, should be used for the purpose of destroying it, is a thing at once inconsistent and monstrous and, if persisted in, may see the finish of the human race itself.

For thousands of years, man has devoted his thought and the best intellect of his times to the preservation of life and the betterment of the conditions he lives under. During the ten years previous to the World War, science had made a remarkable advance in the direction of the prevention of disease. We were putting into practice the discoveries of Pasteur, Lister and other benefactors of their race, a fair amount of control had been obtained over such diseases as tuberculosis, diphtheria, typhoid fever and pneumonia, and statistics began to show a decided decrease in the deaths from preventable diseases of all kinds. According to the Bureau of the Census, there were 11,000 deaths from typhoid fever, in 1900, out of a total number of 539,939; while, in 1920, the number of deaths from this cause had fallen to 6,805 out of a total number of 1,142,558 deaths from all causes. The death rate per 100,000 population shows that the deaths from diphtheria had dropped from 43.3, in 1900, to 15.3, in 1920; tuberculosis accounted for about 60,000 deaths, in 1900, and dropped from 182 down to 100 or thereabouts, in 1920, per 100,000 population. In fact, all along the line of preventable diseases, a remarkable showing is made, proving that it is entirely possible to eradicate these scourges of humanity altogether by the methods of modern science.

Taking the whole world into consideration for years previous to the war, thousands of lives were being saved yearly in all nations by the preventive and curative methods of modern science, a truly remarkable and encouraging sign which meant so much less suffering and all the more happiness to the different peoples of the world. But it is a pitiable showing when we come to compare the loss in battle of 10,000,000 soldiers who were killed and the probable entire loss of 30,000,000 human lives "who might be alive today." This wholesale annihilation of human beings during the late war, when science turned from its great work of producing curative agents for the preservation of life and organized factories and laboratories into places from whence deadly gases and terrible explosives could be made for the sole purpose

of destroying the very thing which we were using all our efforts and knowledge to protect, would seem to indicate that the mind of man loses its balance when fighting one another, and knowledge and reason are used for destroying that which, before, was the object of tender solicitude and scientific watchfulness. The logical outcome is that, under the present mental obsession regarding war, that nation which excels most in science, the science of organic chemistry, will, one day, when it suits its purpose, rule the world

Science is the product of human reason, the calculating and investigating machine to which some improvement and addition is constantly being made, while old parts are being discarded. It has been made up piece-meal by facts and has gradually, with many a long pause in the work, been built up bit by bit until we have the splendid modern machine for the intellect to work with, called "Modern Science," which is so delicately adjusted, so well balanced in its parts as to adjust itself to every new fact and scientific truth which is discovered by its aid. Science is for life, not life for science, and, being as it is an accumulation of facts, these facts are valueless except as they may be applied to the problems of life. If we are going to use, or other nations mean ever to use, the incredibly powerful weapons which science can place in our hands for the destruction of life in warring upon one another, the knowledge which has its foundations in the very dawn of reason in man will be the means of either wiping him off the face of the earth in civilized lands and leaving the whole world in the hands of the most savage and ignorant, or the enslavement of the whole world by that nation which organizes her science for that purpose for her own selfish ends.

Peace Science vs. War Science

A new era was entered upon in the world's history, on April 22, 1915, during the second battle of Ypres, when Science, in the hands of a war-mad Germany, took a hand in the struggle and a dense cloud of chlorine gas choked thousands of brave men to death and sent thousands more back to the hospitals with rotted and inflamed lungs.

From then on until the Germans were defeated, an intensive chemical warfare was carried on by both sides and this mode of offense and defense seems now accepted as being part of the important operations which will distinguish future wars between any of the more civilized nations of the earth. Science will be studied along two entirely opposite lines. One is, the production of remedial agents in the cure and prevention of disease in the endeavor to save thousands of lives yearly and add to the general happiness of the world. On the other hand, men of science will be feverishly engaged delving into the secrets of nature, with the aid of organic chemistry, in an effort to produce some now unknown gas or substance that will kill whole armies off in a few hours or annihilate the inhabitants of cities in a few minutes. For all we know, some scientist is now in possession of such a secret gas, deadly and efficient enough to make even one of the smallest of nations a menace to the world if it were looking for conquest. It is no stretch of the imagination that, some time in the future, an Asiatic nation, insignificant in numbers but pressed by the need of expansion, may one day quietly avail itself of a discovery of this kind and lay other nations under tribute or destroy them. From now on, no nation need be astonished at such a thing happening to it that has not prepared for such emergency.

No nation ever held a more complete monopoly for any weapon than did Germany for chemical warfare and she still possesses her enormous manufacturing plants with their very efficient organization. She has added to her experience, which her undoubted knowledge gave her, years before the war broke upon the world and, until the nations she was at war with are in a position to control any sinister moves on her part, realizing the great efficiency of the Germans as a nation from which so many valuable chemical discoveries have been given to the world, there is a sense of fear for the permanence of peace.

In the eyes of all Germans, their scientists are the greatest in the way of being producers of wealth in the country. They are also on a pedestal as making it nearly possible for Germany to have come out of the recent war a triumphant world conqueror; as they are well aware that, had they pushed their chemical warfare to the extreme limits of their capacity in producing poisonous gases, when they first astounded the Allies by the murderous attack by chlorine gas, the results would have been reversed and then, if the French were in the Ruhr in these days, it would be as slaves working out an indemnity.

Our Desire for Peace

The great heart of the American nation is set on peace, our women and millions of women in the war-scarred countries are bent on making peace permanent and secure. The large majority of men in all the warring

countries, now that time has brought its softening influence to bear, are forgetting their revengeful feelings; the animal instinct to kill has sunk back into the depths of their natures, weakened considerably by the experiences they have gone through.

In the minds of all those responsible for the different governments, peaceful solutions of all difficulties are eagerly sought, the appalling consequences to mankind of another war between any of the world powers is fully understood. The civilized nations realize that, should another struggle between first-class powers take place, science in the shape of chemical warfare will win the day, a day which would end in the darkness and despair of the death of civilization. God in his mercy grant that man's insanity, desire for revenge, or lust of power shall never see the sun set upon the wreck of the experiences gained through the ages!

Worthwhile Wars Before Us

Science has several wars upon its hands that are well worth fighting. The most important is, of course, its battle against disease. "Ills that the flesh is heir to are no longer met with folded hands," and we are proud of the fact that the medical profession of America has always been found in the front ranks in fighting the many diseases afflicting human kind. For reasons which are well known, for some years before the late war, our medical men, the guardians of our health, were treating their syphilitic patients with a drug made in Germany. Our dye and textile trades were also controlled by the same country. America, the most progressive nation on earth, with its one hundred millions of people, was being controlled in its important dye and allied trades, even as to the health of the people, when certain diseases were to be combated through our physicians by drugs prepared and securely controlled in their manufacture and sale by a nation of about half our population, thousands of miles away. The World War taught us one mighty good lesson in showing us plainly where we stood in regard to our boasted independence of the rest of the world.

Well, those things are now past history, our own American scientists have risen proudly to the occasion, our medical profession is confidently fighting disease with American-made drugs, and our dyes are being manufactured at home. For the future, we shall not be blind in this respect to our own vital interests.

To carry the battle against disease on efficiently, our scientists need every encouragement. As Henry Ward Beecher said: "A man is educated who knows how to make a tool of every faculty, how to open it, how to keep it sharp, and how to apply it to all practical purposes." The intelligent direction of effort, the whole object of education is, that one may have more power, that he may do better what he has to do, AND MAY NOT HAVE TO DEPEND UPON ANYONE ELSE.

It is said of the late Dr. Robert Dawbarn, an eminent surgeon of New York, that, in sewing up a wound after an operation, one of his students observed that he always tied three knots where the custom was to tie two. Asked about it, Dr. Dawbarn replied: "The third is my sleeping knot. It may not be necessary to tie it, but it makes the matter that much the safer, and I find I sleep better for it." In their scientific war upon disease, both, our noble-minded physicians and the nation at large, will sleep all the better in the knowledge that their own countrymen are making the scientific weapons to fight disease.

The Pathology and Treatment of Hayfever

By F. A. WIER, Racine, Wisconsin

THE prevalence of hayfever in the United States, based upon recent statistics, is 1,000,000 cases annually. While the average physician has neither the time nor the inclination to make an exhaustive study of the hayfever-producing plants, it is necessary at least for him to know something about the varieties in his immediate vicinity. This information has been carefully compiled by men who have made an exhaustive study of the subject and to whom we should give great credit for their untiring efforts in behalf of the horde of sufferers from what has been aptly termed the yearly torment. While the list of wind-pollinated plants is very large, fortunately they can be divided into a few groups, or classes, which are indigenous to certain sections of the United States, which greatly simplifies their identification as the exciting cause of hayfever. They are divided into four groups which will answer all practical purposes:

1—Ragweeds (cause 85 percent of the hayfever east of the Mississippi River),
2—Grasses,
3—Wormwoods,

4—Chenopods.

To simplify matters still further, we may state that the spring hayfever is caused by the grasses while the fall hayfever is produced by the ragweeds. Furthermore, we may state that hayfever is caused by wind-borne pollens only. Insect-pollinated plants do not cause hayfever, except in some cases where directly applied to the nostrils in the act of smelling. Hayfever victims should be cautioned against coming in immediate contact with plants and flowers of all kinds. Also, city dwellers should forego trips to the country.

A large variety of trees are wind-pollinated, the oaks being the greatest offender. They should be avoided from March to June. It might be well here to do justice to the much maligned golden rod, which is insect-pollinated and does not cause hayfever. Also, we may state that, as a class, bright flowers with honey glands are all insect-pollinated and do not cause hayfever. So much for the exciting causes of hayfever.

The Salient Factor

The real factor in hayfever is a diseased condition of the nose itself, which renders it susceptible to hayfever. Strange to say, this fact has been entirely overlooked or only vaguely suspected by students of hayfever. To make my meaning plain, I will say without fear of contradiction that hayfever does not occur in a nose free from anatomical and pathological imperfections. To make it more emphatic I will assert that no hayfever victim has a normal nose. Now, don't dispute this statement until you tell us whether or not you always make a rhinoscopic examination or just a swivel chair diagnosis? Well, Doctor, don't get peeved, it isn't being done much, of course; even some alleged hayfever specialists couldn't tell the difference between a middle turbinate and a hemorrhoid if they were served on gold plate.

Now, that we have decided to make a careful rhinoscopic examination of all hayfever patients, let us review the anatomy so that we may have an idea of the normal structures.

Normal Anatomy of Nose

The nasal cavities are two large spaces divided by a partition, or septum, composed of bone and cartilage. The roof of these cavities is formed by the nasal bones in front, the body of the sphenoid behind and the cribriform plate of the ethmoid between them. The floor is formed by the palatine process of tne superior maxilla and the palate bones. The septum is formed by the perpendicular plate of the ethmoid above, the vomer below.

The lateral walls are formed by the superior maxillary, lachrimal, palate and sphenoids.

Each nasal cavity communicates with four nasal accessory sinuses. The frontal sinus above, the sphenoidal sinus behind, the ethmoidal sinus on the side behind the middle turbinate, and the maxillary sinus in the superior maxillary bone. The lachrimal canal connects the nasal cavity with the eye, the eustachian tube connects the nasal cavity with the middle ear. The nasal cavities are further divided into three longitudinal passages formed by the three turbinated bones. The superior turbinate arises from the lateral wall of the ethmoid bone. The middle turbinate arises from and is a part of the ethmoid bone, sometimes having very large ethmoid cells. I once removed a middle turbinate as large as my thumb, which was practically hollow, having one large cell over an inch long. The lower turbinate arises from the maxilla and palate bones.

The electrocautery specialists have made a lot of money cauterizing the lower turbinate, without benefit to the patient. Probably it was one of these specialists who invented spondulix spinal adjustments.

The superior nasal passage lies between the superior and middle turbinates. The middle passage lies between the middle and inferior turbinates. The inferior passage lies between the inferior turbinate and the entire floor of the nose.

These passages are very important, as they are the drainage canals of the nasal accessory sinuses. The superior passage drains the sphenoidal sinus and the posterior ethmoidal cells downward and backward. The middle passage drains the antrum of Highmore through the ostium maxillare, and the anterior ethmoidal cells through the infundibulum. The inferior passage drains the nasolachrimal duct.

In a state of health, we secrete about one pint of a watery solution in 24 hours, of which we are unaware, as the drainage is just rapid enough to keep the nasal cavities comfortably moist, any slight excess being evaporated by the air we breathe.

The nasal cavities, accessory sinuses, the pharynx, nasal ducts, lachrimal canals and conjunctiva are supplied by the same mucous membrane, showing how easy an infection may travel by continuity of tissue to all of these parts.

The Bacterial Factor

This explains my theory that hayfever is in fact an infection, not by the pollens but by the bacteria always found present in the nasal cavities, which lie dormant until some ex-

citant comes along and activates them into new life and virulency. This is the part played by the pollens. However, I will speak of this later.

In this brief sketch I have tried to outline the normal anatomy of the nose which should consist of a straight septum, turbinates not large or inflamed, secretion thin and watery and not excessive, just enough to give the parts a moist glistening appearance, no pus or scabs. A perfectly free passage on both sides at all times; middle turbinates and whole length of septum plainly visible without using cocaine to shrink the lower turbinate. No complaints by the patient of catarrh, headaches or hayfever.

Pathology of Nose

Now that we know the normal anatomy, it is very easy to recognize pathological anatomy. We will assume that we have a patient who complains of some nasal trouble. First, we inspect the external aspect of the nose which may or may not indicate a deformed septum. Next, we examine the nasal cavities, which requires a nasal speculum, a good light, and a head mirror.

The first thing we notice is, that the lower turbinates are very red and so large that they impinge upon the septum, so that your view is entirely obstructed. Now apply a thin pledget of cotton soaked in a 4-percent cocaine solution and partially squeezed dry so that no excess of cocaine is swallowed, spread this cotton over as much of the lower turbinates as possible and leave in place for five minutes. Then remove and you will probably find that the turbinates are so thoroughly shrunken that you will have a good view of the septum and middle turbinates. Now inspect the septum, see if it is straight or deflected to one side or has a letter-S twist which may block up both passages and obstruct your view of the middle turbinates. If so, apply a little more cocaine, pushing the cotton up to middle turbinates if possible, leave in three minutes and be sure it is not too wet. "Swallowing cocaine is the main cause of cocaine poisoning and can easily be avoided." Remove pack and dilate nostrils as much as possible with the speculum so as to get a view of the middle turbinates. If the deflection is on one side only, you will probably find the turbinate on the concave side very large, perhaps filling the entire cavity, while the turbinate on the convex side is atrophied from pressure of the septum. You may also notice pus flowing from over or under the turbinate. The septum may be more or less straight except for spurs of bone of various sizes and locations projecting towards the lateral wall and sometimes into it, or the nasal cavities may be so full of polypi as to completely obstruct the view and the patient complains of "catarrh" (physicians should discontinue making a diagnosis of catarrh, there is no such disease *per se*), difficult respiration, violent headaches, asthma, and hayfever. Now add to this nest of iniquity the irritating pollens of ragweed, etc., which will excite the bacteria (always present) into acute activity, and you have a lovely combination.

Now, Doctor, if you found any or all of these conditions in your hayfever patient, what would you do? If you have been reading CLINICAL MEDICINE for the last thirty years, the answer is easy. Clean up, clean out and keep clean. That motto does not apply to the bowels only. You may find garbage in any part of the body. And, what garbage-can could possibly smell worse than an ozena nose! These pathological noses may be likened to a pile of dry oak shavings. They may not cause any trouble until some fellow comes along and touches a match to them; then, the conflagration. The hayfever pollen is the match to the shavings in the pathological nose. Normal nose, no shavings, nothing to ignite.

To Remove Hayfever, Remove the Cause

To cure hayfever, remove the cause. How? With the knife, curette, snare, mallet and a chisel. I have a number of patients who will testify that this method cured them after all of the other fifty-seven varieties of treatment failed.

Dr. Scheppegrell, in his latest work, Treatment of Hayfever, 1922, says, any condition which tends to develop a hypersensitiveness of the nasal mucosa predisposes the patient to an incipient sensitization which tends to result in a persistent form of hayfever. Marked septal spurs, ridges or deflections which cause a concentration of pollen in the obstructed nostril or which touch the opposite turbinal and thus cause irritation, congestion and hypersensitiveness, may form an important predisposing cause. Infection of the sinuses, especially of the ethmoid cells, should receive careful attention. While the percentage of cures is not high, seven percent, they should not be overlooked in the prophylaxis of hayfever. Nasal surgery in hayfever, however, should be avoided except in such conditions as indicated above. (These conditions would be found with surprising frequency if looked

for. F. A. W.). One of our patients, a physician, had both inferior turbinates cauterized and then removed, and the right ethmoid cells eviscerated without benefit, and the surgeon advised a similar operation on the left side. Another patient had nine operations performed, including several electrocauterizations, (He leaves us in doubt as to the nature of these operations, but I assume that they were similar to the above. F. A. W.) without perceptible benefit to his hayfever. These cases indicate not only the futility of excessive surgery (He calls this excessive surgery!), but also the distressing character of a disease that would make a patient submit to these repeated ordeals. In hayfever, the electrocautery has probably been used more frequently than any other surgical method. It is based on the idea that, here, there is an intumescence of the inferior turbinals which the cicatricial contraction following the cauterization is intended to relieve. There are few cases, however, that have been benefited by this method, and we have seen many patients who claim that their condition was aggravated by the cauterization. In view of these facts, electrocauterization should be avoided in hayfever.

This statement of Dr. Scheppegrells is very instructive. It is presumed that, so far as our recorded knowledge goes, the above mentioned surgical procedures were the last word up to the year 1922. The most surprising statement of all is the fact that they cured seven percent of the cases with such inefficient methods. In the first place, cauterizing the lower turbinals is useless. In the second place, removing the lower turbinals is useless. In the third place, eviscerating the ethmoid cells and leaving behind the diseased middle turbinate is useless, for the reason that, if the ethmoid cells were diseased, the middle turbinate was bound to be diseased also, as they are practically all one structure. Furthermore, it is not easy to eviscerate the ethmoid cells without first removing the middle turbinate. So, in my humble opinion, the whole procedure was useless. The lower turbinates are seldom, if ever, the cause of any trouble, although you will always find them congested in a pathological nose; but, like catarrh, this is only a symptom of trouble higher up. It needs no treatment of any kind. I have seen lower turbinates as large and red as a cherry shrink down to their normal size after the cause was removed.

Clean Out the Nose

Now that we have a fair understanding of the pathology of hayfever, the cure is a simple matter. Clean up and clean out the nose, increase the natural immunity of the mucous membrane. Nature provided us with a pint of antiseptic nasal douche for each twenty four hours which, if not interfered with, will keep the nasal cavities washed clean and free from offending material. Mother Nature is a good old doctor and always willing to help us if we have foresight enough to work with her instead of against her. If there are large spurs or if the septum is badly deflected, do a complete submucous resection. If the middle turbinates show evidence of disease, remove them and eviscerate the ethmoid cells at the same time. If the sphenoidal sinus shows evidences of disease, pus flowing from above the middle turbinate into the pharynx, pain located in the center of the head and radiating into the ears—ocular symptoms vary from impairment of the field of vision to complete blindness—clean out and drain; irrigate with normal saline solution, inject ten-percent argyrol and allow to remain. If the patient is a child or young adult, remove adenoids, also tonsils if necessary. It is probably unnecessary to state that none of these operations should be performed during the hayfever explosion but some time after the attack.

Owing to the fact that the following bacteria are always present, viz., micrococcus catarrhalis, bacillus of Friedlænder, pneumoccus, streptococcus, staphylococcus aureus and albus, these bacteria are now actively at work producing the infection of the nasal cavities known as hayfever. So, we hesitate to open up new avenues for infection. At this time, it would be absurd to use the pollen vaccines. However, a vaccine made from the above named bacteria is certainly indicated.

Curative, Prophylactic and Palliative Treatment

Unfortunately, few hayfever patients consult us early enough for the foregoing treatment to save them from the expected attack; so, all we can do is, to advise them to have their nose put in order as soon as possible after the attack. Of course, if they consult us a few weeks before the expected attack, it is a difficult question to decide whether to operate at once or to ease them through the attack and operate later. The amount of work needed will help us to decide. However, as a rule, I think it would be better to be on the conservative side and wait until the attack has passed. In these cases, we may resort to the pollen vaccines, constitutional treatment, emollient applications to the nasal cavities and a prescription containing epine-

phrin. These can be had in tablet form and are made by several well known firms. The following prescription is very beneficial as a preventive of nasal and bronchial congestion, and will certainly ease the patient through the attack, especially if complicated with asthma:

℞ Epinephrin ..... grs. 2
Pituitary, entire ..... grs. 1
Thyroid ..... grs. 1 1/10
Anterior Pituitary ..... grs. 1½
Physiological salts comp. ..... grs. ¼

Sig. One tablet night and morning for several weeks before the expected attack. Increase the dose to four tablets per day about one week before the date of the usual attack.

In some cases, the prophylactic treatment will carry the patients through the season with little or no symptoms of hayfever, provided that they use reasonable precaution to avoid to pollen districts. They could hardly expect to pitch their tent in a mess of ragweeds and escape hayfever. Another valuable precaution is, to screen their windows with cheese cloth and keep this wet by a frequent application of water, as water will render the pollen innocuous and prevent its gaining access to the house. All patients have an immunity, up to a certain degree, to the pollen. As some more fortunate individuals have a complete immunity, so it seems reasonable at least to believe that, if our daily consumption of pollen could be reduced, we might escape or have a milder attack than usual. So much for prophylaxis.

Treating the Attack

Now when hayfever comes, what may we expect from treatment? This is the big adventure that taxes our skill to the limit. Well, we are not altogether beaten on this undertaking, if we keep in mind the conditions we usually find present in the nose and the indications for treatment. Suppose we find a nose completely blocked with polypi, very large lower and middle turbinates and a deflected septum. You wouldn't expect much benefit from the old-time squirting and swabbing methods. You might as well expect to extinguish a fire with an atomizer. Nor is this the time for pollen vaccines. The patient is getting plenty of them from the air by this time; his nose is also swarming with bacteria. This is where catarrhal vaccines may be expected to produce good results. This treatment should be pushed to the limit of tolerance or until marked reaction warns us to decrease the dose. Also prescribe four tablets per day of the ephinephrin combination and a morning dose of saline laxative. The patient should insert in the nostrils a cotton tampon medicated with 1 percent phenol-glycerine three times a day for twenty minutes. This promotes drainage, lessens the congestion and may kill a few bacteria. The conjunctivitis may be greatly relieved by the following prescription:

℞ Cocaine Hydrochloridi
Acidi Borici ..... of each, grs. 5
Aquæ dist. M ..... oz. 1

Sig. One drop in the eyes t. i. d.

This solution isn't strong enough to do any harm. It will dilate the nasolachrimal duct enough to relieve the epiphora, for which the patient will be very grateful. Relieve the headache with acetylsalicylic acid or one of the newer preparations (like mygrone) which are more analgesic.

Now, we will presume that the next case is free of polypi but otherwise just as bad. We treat him just the same as the first case, except that we can do more locally. So, we add to the treatment a spray of antipyrine 4-percent solution. This is to be carried by the patient and used every half hour during the day. This keeps the nasal cavities clean and relieves the congestion, as antipyrine will shrink the tissues considerably, thereby promoting drainage and respiration. At bedtime, the following prescription is very good:

℞ Anesthesine
Menthol
Camphor
Resorcin ..... of each, grs. 10
Ungt. Petrolat. albi ..... oz. 2

M. et sig: Apply in nostrils and rub on sides of nose and over forehead.

I don't know just how much good the external application does, but the patients claim that it affords additional relief. This salve is anesthetic and healing to the irritated mucosa. If there is sore throat or cough, apply a little on the tongue—the quick relief is surprising.

We will take the next case, which represents the milder type of hayfever, resembling a slight but persistent cold. In this case, we omit the vaccine and epinephrin compound. In 90 percent of these cases, we have a specific in nitromuriatic acid, dilute, "freshly prepared", 10 drops in a glass of water after meals and at bedtime. Also prescribe the antipyrine spray and the salve. It is nothing unusual for patients to be entirely free from hayfever in a few days after being put on this treatment and to go through the season without any recurrence of the distressing symptoms.

Asthma: Adrenalin, by its action on the

sympathetic nerves, relaxes the bronchioles. The epinephrin compound will relieve or prevent most hayfever-asthmas. However, for the more acute distressing attacks, a hypodermic injection of adrenalin "1:1000", ten minims, in distilled water thirty minims, will afford immediate relief. Incidentally, it is well to remember that this will also stop ether vomiting.

Caution: Do not use adrenalin in the nose, as the after-effects are worse than the condition you wish to relieve.

Resorts: The only guaranteed antihayfever resort should be on a weedless island ten miles from the mainland.

Weed laws: Twenty-four states have antiweed laws which are about as dead as the Volstead law.

A Few Minutes With the Urine

By J. HENRY DOWD, Buffalo, New York

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A HUMAN being consists of a body and a soul; the former made up of bones, flesh and fluid; these we can see and, in them, detect pathological changes, when they are present. The soul is like electricity or air. We cannot see it, but we can feel its presence. Here is situated the mind; namely, reason, will power, etc.

An analysis of the human body shows it to consist almost entirely of chemical elements as follows: Water, 10 gallons; carbon (coal), 24 pounds; iron, ¼ oz.; lime, 7 pounds; phosphorus, 1.8 pounds; sugar, 1/5 oz.; salt, 1.8 oz.; iodin, 1/10 drop; about 10 ounces of potassium, fluorine, sulphur and magnesium. Of gasses we find 112 cu. ft. of oxygen, 60 cu. ft. nitrogen, and 561 cu. ft. of hydrogen.

Scientists tell us that the human body changes completely every seven years, that at the end of that time not one single cell of former construction is present. With such evidence, there can be but one logical conclusion: There is a constant destruction going on; but, to continue life, there must be constant reconstruction.

For this reconstruction, it is necessary that a constant intake of nutrition be furnished, and we find that the average human adult consumes about one ton of food and fluids a year, which, through a process of digestion, assimilation and metabolism, are converted into the aforementioned substances.

The Organism—A Laboratory

Viewing the elements present as purely chemical, can we not look at the human body from the standpoint of a large chemical factory in which crude material is received and converted into the different elements that are necessary for reconstruction?

In nature we know that, where there is combustion, there is always residue, or end-products; waste, so to speak, which is thrown off. The very same condition takes place in the human laboratory or this body of ours.

If anything were going wrong in the factory, if by-products were not being produced as they should be, the residue, or end products, would be immediately sought for as a source of information. Why not so with the human factory?

The chimney, sewer, ash pile and refuge heap show residue from the factory. The lungs, skin, kidneys and bowels show the same from the animal body, be it man or beast.

To go deeply into an analysis of the foregoing would be far beyond the scope of any one medical article, and it would necessitate knowledge, time and apparatus that the general practitioner has not at his command. Yet, he must try and give the suffering public the best thought of the present day, as far as possible.

The Urine, a Barometer of Health

The most available and knowledge-imparting excretion, as far as help in diagnosis goes, is the urine. To estimate all its chemical constituents, would be a task far beyond the possibility of the busy general practitioner. However, there are substances which, when present, are easily and quickly found and will give information of a valuable nature, assisting in forming an opinion as to existing disease.

Too much confidence should not be placed in *specific gravity*. I have failed to find sugar at 1036, and noted its presence at 1016. It might be safely said that a gravity of 1005 or less is a most positive indication of great nerve irritation, such as hysteria. Elixir valerianate of ammonia will quiet the condition in a very few hours.

Normal urine should be perfectly clear: It

*Read before the Physicians and Surgeons Club Western New York at Angola, N. Y.

is opaque in the order of frequency, in the following conditions: Bacteriuria (very common in women) due to fermentation; pus; earthy phosphates (specimen greenish in character, will dissolve by adding acetic or nitric acid); epithelium, spermatozoa, mucus. If urine becomes opaque on cooling, it is always due to urates.

Albumin is due to a leakage of serum from the blood vessels and may appear in the urine as follows: (1) In the presence of inflammation anywhere along the urinary tract, always present in the acute stage of gonorrhea, and pyelitis at any stage; (2) it may or may not be present in Bright's disease; is always present in the parenchymatous variety; (3) alterations in the blood pressure in the kidneys, where there may be a congestion due to heart trouble; (4) changes in the blood itself, whereby diffusion of serum can take place; (5) prostatic secretion escaping into the urine will give rise to albumin reaction.

Eliminating Bright's disease, inflammatory conditions of the tract, and heart disease, albumin found in the urine (especially if the urine be scant) is as positive an indication of anemia as the most careful laboratory test for that condition.

In parenchymatous inflammation (Bright's disease) and in anemia from any cause whatever, Basham's mixture is the remedy of choice; its action is quick and sure.

Glycosuria, or *sugar* in the urine, is due to a non-oxidization of carbohydrates. Diabetes, as it is known, should be viewed from two standpoints: functional and organic. The former is caused by a defective metabolism and the latter by a pathological change in the Islands of Langerhans situated in the pancreas.

As all individuals having sugar in the urine do not have the characteristic symptoms of diabetes (thirst, passing great quantities of urine, or the facial appearance), it should be a matter of routine to examine all samples of urine for sugar. For a quick and, to all evidences, fairly accurate test, the "Haines" is preferred. To estimate the percentage with satisfactory accuracy, the urine can be diluted, 1 drop of urine to 9 of water. Then, if it takes but 1 drop to show sugar, and at the next examination 4 or 5, improvement or otherwise can be noted and information given accordingly. (If sugar does not appear with 8 drops of undiluted urine, it is not present.)

It is quite impossible to state on the first visit whether a case is functional or organic, but, with a marked increase of indican, and urorosein, and a plus Phosphatic Index, it is fair to assume that the glycosuria is functional and will be completely recovered from.

My method of treatment is as follows: more or less restriction of carbohydrates for the first week or ten days, and Bromarsarum (bromide of gold and arsenic), commencing with 10 drops and increasing 1 drop a day up to 20 or 25, three times a day. If, at the end of ten days or so, sugar is rapidly decreasing or entirely absent, a baked potato and a couple of slices of toast are added to the menu and the medicine continued.

If, at the end of three or four weeks, sugar is absent, the diet may be increased gradually until a full carbohydrate intake is arrived at or, in other words, there is no curtailment whatever.

If, with no curtailment of diet whatever, sugar does not reappear, it may be safely assumed that the glycosuria was functional; if then the Phosphatic Index is normal, the medicine may be stopped. I have had many cases in the past three or four years in which sugar has not returned, although no dieting and no medicine had been used.

Galen, some time between the years of 130 and 210 A. D., was the first to describe Diabetes. People who had this disease during those early days may have been more inconvenienced and died sooner than today, but, nevertheless, sooner or later true diabetes accounts for death now, the same as it did in the first century.

Diabetes Diet

It is a sad mistake to diet diabetics rigidly, that is, to entirely deprive them of carbohydrates for any length of time. At the same time, it is inadvisable to suddenly change them to a rigid nitrogenous diet or allow long railroad trips. These are conducive to coma, a very serious condition that may develop at any time.

An examination for acetone and diacetic acid should always be made; these substances are very important as to prognosis and may indicate an oncoming coma.

My method of dealing with organic cases is, to avoid sweets and sugar, candy, etc., but allow them a reasonable amount of carbohydrates. Avoid all exertion, especially wetting or chilling of the body. Although it is not necessary or, possibly, good practice to continue medicine without interruption, my best results have been obtained from the use of Bromarsarum in doses from 12 to 15 drops in water three times a day. With this treatment, I have had patients live ten to twelve years

with little or no inconvenience to them.

Evidences of Incomplete Combustion

Indol is formed in the small intestines, becomes oxidized in the blood, unites with sulphuric acid and appears in the urine as *indican*.

To some extent, it is present in all urines, but its appearance to any extent is indicative of some systematic derangement, generally intestinal putrefaction.

Occasionally, free crystals: oxalic, uric acid or phosphates (coffin-lid variety) accompany indican. This is evidence of malassimilation or defective metabolism. Intestinal digestion, assimilation and metabolism being a function entirely under control of the nervous system, the Phosphatic Index will give valuable information. If the index is high, a sedative is indicated, such as the bromide of sodium or the elixir valerianate of ammonia. If it is low, nerve-cell nutrition is required.

The following case is an example:

Mrs. S. referred by Dr. Decot, oculist. He had treated her for some time for iritis; pain was constant, especially at night. She had been treated for three or four weeks for rheumatism; a spinal puncture had been made for syphilis diagnosis; teeth and tonsils x-rayed; all were negative. Dr. Decot advised removal of eye. This advise was concurred in by Dr. Park Lewis, but, before operating, an index was asked for. No pathological condition in urine, except free crystals of oxalate of lime, great increase of indican and Phosphatic Index 30 percent minus. The following prescription was given: Caroid grs. 40, Fl.-ex. valerian oz. 1, Mix. Phos. Comp. (Dowd), 2 ozs., ½ spoonful in milk twenty minutes after meals. In ten days, she reported, no pain. Examination showed no crystals, only very slight indican reaction, Phos. Index 10 percent minus. The medicine was continued for a week or so longer. Two years afterward, this lady had had no return of pain, nor did she have to use glasses.

Nerve Metabolism

It is generally conceded that the brain is the source of life; every action, thought, word or deed; all energy and motion has its origin in the brain.

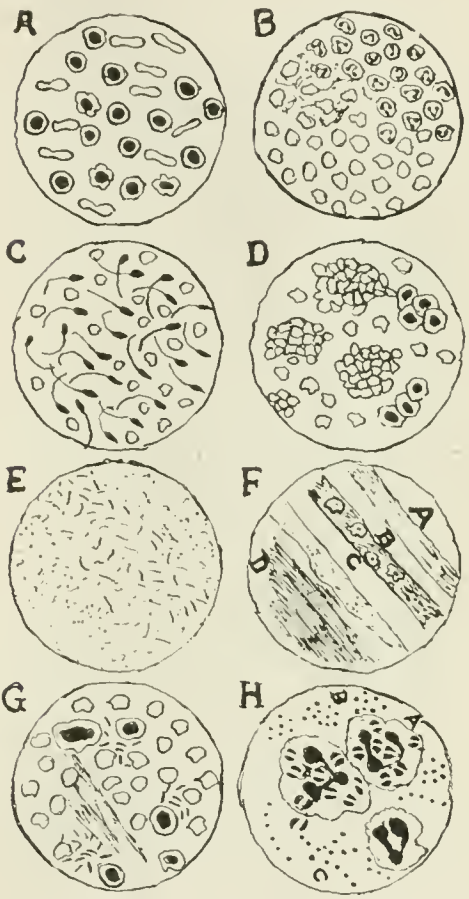
The alkaline phosphates in the urine show the energy of the nerve metabolism; whether the nerve cells have sufficient nutrition, and how it is being used.

In any obscure case, in any case where recognized treatment is not followed by desired results, where resolution is slow from any inflammatory condition, the Phosphatic Index will give information of the most valuable character. This can be proven by the rapid and permanent results that will follow medication directed along lines of the reading

The Microscope

The amount of information that the general practitioner can get from use of the microscope will be surprising, even though only the ½-inch objective be used. But little technical skill is necessary.

Opaque urine can at once be differentiated as to cause, whether it is due to pus, earthy phosphates, epithelium, spermatozoa, bacteria, or whether blood, casts or free crystals are present.



(These figures are only slightly larger than will be seen with a ½-in. objective, and need no staining. G and H, as seen with the 1/12, oil immersion; tubercle bacilli can be stained with carbol-fuchsin, gonococci and others with methylene blue).

Blood cells are frequently found in the urine, although the fluid may have no color showing its presence; albumin will always be present. Free blood cells in the urine indicate some pathological condition. They may be the very first evidences of tuberculosis, stone or tumors of the bladder or kidneys.

The finding of *pus* will quickly differentiate a frequency of urination; due to hysteria from

that of diabetes. If pus is present, it indicates an inflammatory condition. Pus in clumps (resembling a period or comma, of course, greatly increased in size) has its origin either from the prostatic ducts or pelvis of the kidneys. In the latter instance, albumin will always be present; the pelvic epithelium will appear overlapping, in shingle-like formation, and on standing the pus will gather in the bottom of the glass in a gelatinous mass. This is due to a colloid substance secreted in the pelvis of the kidney.

Spermatozoa may be easily found with a ½-in. objective. If they are passed dead, they will be curled, bent or twisted; if alive, they will be almost straight. The Phosphatic Index will quickly tell the cause. If low, give nerve-cell nutrition (phosphorus) to strengthen the muscle around the ejaculatory openings; if high, sedatives to quiet the irritability of the mucous membrane of the posterior urethra. Spermatorrhea should not be diagnosed on one finding; the spermatozoa may be spontaneously expelled as the bladder expels the last few drops of urine.

Bacteriuria is due to fermentation within the bladder; it is common in women, and men with obstruction, as hypertrophy of the prostate or due to stricture; fermenting urine has a disagreeable odor.

Patients having bacteriuria are always in a low state of health; an increase of indican and urorosein usually accompanies the condition, showing fermentative changes in the intestinal tract also.

These conditions are easily corrected by removing the cause where one exists, and increasing the resisting power of the patient.

Casts in the urine may be true or false; that is, they may show inflammation of the kidneys, "Bright's disease," or they may be due to an oversupply of protein being taken by the mouth. In the latter case, the kidneys cannot take care of it, and some passes away in the form of casts.

Differentiation of these conditions can be made from the appearance of the epithelial cells that may be attached to the casts. If a pathological condition is present, the epithelial cells will appear degenerated; that is, more or less withered instead of the normal round cells about the size of a pus cell. The history of the case will greatly aid in clearing the diagnosis. In case of a urine of about 1010 specific gravity, with a few casts, and albumin present or not, if the individual complains of a "bad stomach," gas, dyspepsia, also headache, accompanied at times with dizziness and specks floating before the eyes, it is fair to assume that renal derangement is present in the form of *interstitial nephritis,* and especially so if the person has been what is termed a "high liver," has partaken freely of rich food: shellfish, lobster and the like, for any length of time.

The *parenchymatous* variety preesnts a somewhat different picture. The symptoms mentioned will be present in more or less degree, but the patients complain of an interference with breathing, have a sort of a bronchial catarrh and, if questioned carefully, may admit that, at night, their feet swell slightly around the ankles. In this condition, the urine is diminished in quantity, contains many more casts and, generally speaking, albumin is always present.

Both conditions demand a curtailment of diet, as to red meat, shell fish, asparagus, tomatoes, and rich foods; only the most non-irritating nourishments should be allowed and such fluids as cider and spirituous liquors are absolutely forbidden. Medicine should be used with great care. It must be remembered, all medicines are eliminated by the kidneys, and their constant use only adds extra work to the already weakened organs.

In the first instance, the blood pressure, which is generally high, can be controlled to a great degree by sedato-alteratives (I use Bromarsarum—bromine, gold and arsenic) 10 to 15 drops in water three times a day. This not only lessens arterial tension but causes an absorption of inflammatory exudate from in and around the vessels.

In the parenchymatous variety, anemia is almost always present. The best results will follow the use of Basham's mixture, 2 teaspoonfuls in water after meals.

It is very difficult to find tubercle bacilli in the urine, unless ulceration is present in some place along the tract. There are, however, certain symptoms that are almost as pathognomic as the finding of the bacilli.

There may or may not be a history of venereal infection (gonorrhea), especially is it very suspicious if there is not. The urine has a ground-glass appearance, due to pus, and occasionally floating débris are seen. Blood cells may be present, and are very prone to be if any irritation (sounds, catheters) has been caused; it is at this time that tubercle bacilli may be found. Frequency of urination is one of the first symptoms, particularly so if the bladder is involved. This is due to the inflammation, and especially to the contraction which always occurs in tuber-

culous cystitis. This contraction, which is due to the involvement of the muscular and interstitial tissue, causes the bladder to become lessened in capacity. It at times contracts to an extent that only an ounce or so of urine or solution can be retained at one time.

In the acute but simple inflammatory conditions, eight or more ounces of fluid can be used with but very little distress to the patient and this is a very important point. If silver nitrate, even in a one to 16,000 strength is used, in the simple inflammatory conditions, it is easily borne by the patients, and very little uneasiness will be experienced by them after passing it. On the other hand, if the condition be tuberculous, they will complain of great pain when even a small quantity is used and, after its passage, much distress is evidenced for from 12 to 24 hours. Using such treatment, proof that it is not of a simple variety is evidenced by practically no improvement whatever, whereas, in simple cystitis, there is a marked amelioration of all symptoms and a great decrease of pus.

Summary:

If it is possible, it would be a very wise procedure to examine the urine of all patients. In many, where but very little of value might be supposed to come from such an examination, the most important information as to cause may be found. It should be a rule of the physician to examine every specimen of urine where well recognized remedies do not seem to bring about recovery or resolution. Often it is found that anemia exists or that there is a defective metabolism, as will be indicated by a great increase in indican with free crystals of oxalates, uric acid or coffin-lid phosphatic crystals. In these cases, the Phosphatic Index will at times quickly reveal the true cause, viz., that energy or resisting power is at a very low ebb, due to a want of nerve-cell nutrition.

It should be an ironclad rule, not to be broken: Examine the urine of all functional cases. Eighty percent of these patients consult you at your office; they are the ones that have made the rounds, without very much improvement. They are the ones that sooner or later fall into the hands of men that, we know, cannot do more than make an impression on their minds; but they do that, and, strange as it may appear, many of the patients are relieved, so that they go forth praising one of the pseudo-healers and condemn us.

Undernourished blood cells (anemia), or nerve cells (neurodynia) mean a weakened state of the mind. Build up the former; in not all, but in a great many, improvement will take place promptly.

Ten to fifteen minutes spent with a sample of urine will often make an open book of many puzzling cases.

437 Franklin St.

The Menace of High Prices and a Rational Remedy

SPECIAL ARTICLE

"If the people have no bread why don't they eat cake?"

The present industrial and financial impasse portends a revolution unless prompt measures of relief are applied. Our statesmen have no remedy, no constructive policy to adequately meet the dangerous situation, and weakly advise a six-month truce on the industrial battle field. Just wait half a year and something may happen, some good fairy, forsooth, may bring relief ! ! ! The queen's remedy was no more foolish than such an absurd program in this time of a similar peril.—The Author.

Man has solved the problem of production but has failed ignominiously on the easier and simpler one of distribution. He makes a watch for $5 which is retailed at $25, the delivery charge being $20 on a $5 product Michigan farmers get 40 cents per bushel for potatoes which are sold for $1.60 in the adjoining state, the delivery charges being $1.20 on a 40 cent product. Michigan farmers also raise sweet corn for $15 per ton which is sold at retail in cans for $125 per ton, the consumer paying $110 for the delivery of $15 worth of corn. California farmers get $1.60 per box for oranges which cost the consumer $4.80 per box, the delivery charges being $3.20 for a product worth $1.60. Arkansas farmers get 60 cents per basket for peaches which are sold in northern states for $3.50, the delivery charges being $2.90 on a 60 cent product.

Indiana farmers get 60 cents per bushel for

tomatoes which are sold in cities not far distant for $3 per bushel, delivery charges being $2.40 on a 60 cent article. New York farmers get 5½ cents per quart for milk which is sold in New York city for 18 cents per quart, delivery charges being 12½ cents on a 5½ cent product. Farmers along Chesapeake Bay get 18 cents per quart for oysters which are sold in Washington for 80 cents per quart, delivery charges being 62 cents for an 18 cent product. Everything else is produced and distributed on a similar basis, the delivery charges varying from $2 to $10 on products whose initial cost is but $1.

Has All Facilities, But—

What a sad commentary on man's intelligence! ! ! He has the fast freight, the lightning express, the swift motor car, the telephone and the telegraph. Yet, with all these splendid facilities for quick and cheap transportation, he pays more for the delivery of his products than it cost to make them. If he had to do this work with a push cart or an ox wagon, there would be some excuse for the high charges.

Profiteering is not the cause of this astounding situation. If it were, all middlemen would be rolling in wealth. On the contrary, however, Dunn and Bradstreet show that only three percent of those engaged in business make any notable financial success. Middlemen are not thieves and scoundrels. They are doing the best they can, furnishing the cheapest service possible with their old-fashioned and ridiculously inefficient methods. They are not wicked but merely stupid.

Why should delivery charges be so much greater than manufacturing cost, inasmuch as it is a great deal easier to carry a product to the user than to make the product? It is because man has studied the problem of production and ignored that of distribution. He has organized, systematized and mobilized manufacture. He has developed and improved methods and eliminated waste in production; but in distribution he has made no progress whatever, being content with methods in vogue from the beginning of civilization, methods that belong to the age of the spinning wheel, the stage coach, the sickle and the tallow candle. A host of middlemen stand between the producer and the consumer, each one of whom heaps on his heavy overhead expenses, losses and profit, the result quite naturally being a transaction topheavy with delivery charges. They are using the old-fashioned sickle, so to speak, in the age of the efficient modern twine binder.

Delivery Charges Main Cause

Democracy applied to industry is now offered as a remedy for high prices. A democrat, however, could not cut any more grain with a sickle than an autocrat. Neither can democracy cut down delivery charges while the present methods are maintained. Delivery charges can be cut down only by the adoption of a new marketing plan based on modern principles, principles of efficiency, system, mobility of operation and elimination of waste, the same principles that have made production simple and inexpensive.

Obviously, the sensible thing to do would be, the adoption of a better method for performing distributive work. A new system of marketing, called the postal market, embodies the modern features just mentioned and would furnish in consequence a delivery service at a reasonable figure, about 10 cents on the dollar. This plan was recently tried out in a modified or incomplete form in disposing of the surplus army food, through the post office. The trial was a splendid success, as high as 45 percent being cut off the prevailing market price.

Would be More Satisfactory

The postal market, however, would be much more satisfactory than the modified plan just mentioned. This plan would require a market house adjoining the post office where all sorts of food from the farm, factory and packing house would be displayed for sale in *standard grades and standard packages.* People could visit this market house and carry home their purchases or they could give their order by telephone and have it sent out on the regular mail delivery. A consolidation of food and and mail delivery would save an enormous amount of labor. Delivery work would thus be mobilized, systematized and made highly efficient. One trip would suffice for the delivery of milk, bread, the daily paper, mail, groceries and other supplies, each one of which now requires separate carriers. Food would be collected in the country by rural mail carriers with motor trucks and carried without stop or delay to the city postal market, whence it would proceed direct to the table. The delivery charge would be just sufficient to cover the actual cost of hauling the food from the farm to pantry. The enormous and heavy charges of the middlemen would thus be abolished.

The postmaster in the state capitol and the county-seat postmasters would form a clearing

house for foods which would forward any surplus above local needs, to the nearest point needing it. The mobility of operation and rapid delivery would eliminate loss by spoilage which is the big handicap under present methods.

The postal market should not be confused with marketing by parcel post. The latter plan lacks a vital part, viz, a connecting link between the producer and the consumer. The postal market house supplies this very necessary link, and by handling food *only in standard grades and standard packages* a satisfactory service would be furnished.

Mobility of Plan

The mobility of this plan would reduce delivery charges to a minimum. People would no longer have to pay 12½ cents for the delivery of 5½ cents worth of milk, or $1.20 for the delivery of 40 cents worth of potatoes. Prices could be cut in half and still leave a good margin to cover transportation costs. Milk could be sold in New York city for nine cents per quart instead of 18 cents, which would leave 3½ cents for carrying 5½ cents worth of milk from farm to table. This plan goes straight to the heart of the big problem confronting the world and shows the only road to relief. Something must be done and done quickly to relieve the present industrial and financial impasse; otherwise the smouldering fires of revolution will burst forth in all their fury.

Paying more for the delivery of a product than the original cost of the product is a fatal economic sin whose inescapable penalty is social unrest, strikes, riots and anarchy. Why should people be content to pay 12½ cents for the delivery of 5½ cents worth of milk, $1.20 for the delivery of 40 cents worth of potatoes, 62 cents for delivery of 18 cents worth of oysters, 20 cents for delivery of three cents worth of sweet corn and other foods in proportion? Their discontent and unrest are founded on just grounds and, unless society quickly repents and abandons this grave sin which is directly responsible for the world-wide industrial turmoil, revolution with all its ghastly features will be the penalty. This is not a threat. "The forces of the world do not threaten, they operate." The colossal tide of unrest is rising rapidly and will overwhelm us unless the proposed measure of relief is speedily adopted.

As a Labor Measure

Union labor is concerned chiefly with getting a larger share of its products. Unfortunately, however, labor's position in the social body is very like that of an ox in a treadmill which walks all day long in a futile effort to reach the food placed just out of reach. Every raise in wages is immediately nullified by a similar or greater advance in the price of labor's products,—hence the goal is always receding and unattainable.

The Railway brotherhoods, realizing the futility and stupidity of such an endless and fruitless struggle, have demanded a cut in the cost of living instead of another increase in wages. If this end is to be attained, it is obvious that some new factor must be introduced. This new factor is the postal market which will reduce prices, not in the usual way by a cut in wages, but by cutting down delivery charges through the adoption of more efficient methods and giving labor the benefit of the saving. This plan would cut the cost of living in half, which would be equivalent to a doubling of wages. Labor would thus attain a substantial and permanent gain.

The Plan Is Practicable

This plan is not a visionary scheme of an impractical dreamer. The idea in a modified way has already been put in successful operation in disposing of surplus army food heretofore mentioned. As a distributor of army food, the postoffice has demonstrated its ability to function as a middleman. There is no good reason why it should not continue this important service and, extending it to all sorts of food, thus *establish the postal market in its complete form.*

Labor has learned by long and bitter experience the futility of strikes, increased wages and still higher prices, a vicious spiral ending in a final collapse called a panic. To attain its objective, new tactics must be employed, the tactics proposed by the railway men, viz, a reduction of the cost of living. The postal market is labor's new weapon to replace the strike. Let labor champion this measure, and its adoption is assured.

A complete description of the Postal Market is found in Bulletin No. 101, Department of Agriculture, Notre Dame University. Price 10c per copy, $5.00 per 100. R. L. Green, Marketing Expert, Notre Dame, Ind.

*Some years ago, the *South Bend News-Times* (Oct. 12, 1919) printed a communication from Prof. R. L. Green, Marketing Expert, at Notre Dame University (Indiana), which contains a proposition for cheaper distribution of farm products. The plan appeals to us as possessing merit. Physicians are interested in economic modes of production and distribution of food stuffs. They should be attracted by a concrete and constructive proposal for improvement such as that suggested by Professor Green.

A Brief Consideration of Pathologic and Physiologic Death

By EDWARD PODOLSKY, M. D., Brooklyn, New York.

DEATH may be defined as that condition brought about by the complete disturbance of the mathematically harmonious activity existing among the vital organs of the organism. The cause of death is but this one; but the nature of the cause is twofold, there being that death which is pathologic (unnatural), and that which is physiologic (natural).

Pathologic Death

Pathologic death is that which physiologic death is not. That is to say, while the cause of a truly physiologic death is one, the causes of unnatural demise are many. It thus becomes a necessity to define pathologic death in terms of physiologic death, and any cause that deviates from the one cause of natural death leads to a pathologic demise.

The most prominent cases of pathologic death are those occasioned by crushing, by poisoning, by destruction of vital organs through mechanical, chemical and abnormally degenerative means. In fact, the causes of pathologic death are so many and various that even a very brief consideration of but a small fraction of them would require a thesis of many thousand pages.

Physiologic Death

Natural death is the incidental result of cellular differentiation. Weismann's views on this phase of the topic is of great interest and the following should be especially noted:

"1.—Natural death occurs only among multicellular beings; it is not found among unicellular organisms. The process of encystment in the latter is in no way comparable with death.

"2.—Natural death first appears among tbe lowest heteroplastid metazoa, in the limitation of all the cells collecting to one generation, and of the somatic or body-cells proper to a restricted period; the somatic cells afterwards in the higher metazoa came to last several and even many generations, and life was lengthened to a corresponding degree.

"3.—This limitation went hand in hand with a differentiation of the cells of the organism into reproductive and somatic cells, in accordance with the principle of division of labor. This differentiation took place by the operation of natural selection.

"4.—The fundamental biogenetic law applies only to the multicellular beings; it does not apply to unicellular forms of life. This depends, on the one hand, upon the mode of reproduction by fission which obtains among the monoplastids (unicellular organisms) and, on the other, upon the necessity induced by sexual reproduction for the maintenance of a unicellular stage in the development of the polyplastides (multicellular organism).

"5.—Death itself, and the longer or shorter duration of life, both depend entirely upon adaptation. Death is not an essential attribute of living matter; it is neither necessarily associated with reproduction, nor a necessary consequence of it." ("Essays upon Heredity," vol. 1, pp. 160-161.)

Exactly what is the process of physiologic death in the highly specialized individual? Researches have brought several facts in explanation. There begins, from the day of the birth of the complex organism a struggle between the primitive and specialized cells that continues throughout life. Disease and accident may cause an overactivity of the primitive element (conjunctive cells) and hasten death which would be pathologic. On the other hand, if there is an absence of abnormal excitation of the conjunctive cells and they continue to triumph over the specialized cells, natural, or physiologic, death results within a longer interval.

This activity of the primitive element tends to bring back all to a primitive condition where each cell was sufficient unto itself. But the organism is one where all is coordinated, and this leveling process is fatal. The cells (conjunctive) replacing the specialized element are in no way capable of carrying out the highly organized and coordinating activity, and finally there occurs a complete disturbance of this vital activity, and natural death results.

This phenomenon of displacement of specialized cells by the primitive ones occurs everywhere in the tissues,—and the relation that these bear to the vital activity affects it accordingly. Primitive cells (the osteoclasts) multiply around the osseous laminæ, whence they draw the pith of the bony substance. The muscles undergo this same degeneration, being

[*Concluded on page 618.*]

Surgical Seminar

Conducted by GUSTAVUS M. BLECH.

The Seminar

THE appeal, in the June issue, to let the Editor of the Seminar have an expression regarding the desirability to continue the Seminar, has resulted in the receipt of a large number of letters from our readers in which we are urged not to discontinue our efforts.

This is indeed gratifying, and, while the Editor regrets that, on account of being ordered away for a two weeks' military encampment virtually at a moment's notice, he is unable to acknowledge the communications containing constructive criticism individually, he desires here to thank all who have gone to the trouble of saying encouraging words.

The readers will rejoice with the editorial staff to learn that we have lost one of our oldest and best collaborators, Colonel George Acheson, of Kingston N. B. Canada, and have gained in his stead *General* George Acheson, of Kingston N. B. Canada.

We congratulate the General on his well-merited promotion. Evidently, the fact, that our distinguished friend has exchanged the crown and two stars for crossed batons on his shoulder knots, does not overawe our other collaborators, for, as will be seen, his surgical exercise, published in the June issue, comes in for a lively discussion.

General Acheson suggests that, each month, we publish the names of all those who send in solutions, with brief comment, and select one or more of the best for extensive discussion. We would be very glad to carry this out. But, that it is not practicable unless there is hearty, general and continued cooperation, requires no proof. We shall have more to say on this later.

Our esteemed collaborator, Dr. R. B. Gray, of Bay Shore, N. Y., sends the following interesting letter:

"Don't get discouraged! I am sure that the falling off of the replies is due only to other calls and not to loss of interest. Keep at the unique department, for we can in that way learn what is bothering the ordinary man in the practice of medicine and also learn how to diagnose and treat cases clinically.

If you take notice, the cases on which opinions are asked are LIVE ones and, only in rare instances, are the assaults of nature so successful or the therapy of the general practitioner so illy chosen, that the patient reaches the autopsy table."

A physician in a town not many miles away from Chicago writes very interestingly. He restricts his practice to internal medicine, and, while assuring us that the Seminar has proved of great help to him, he feels too incompetent to participate in the discussions, as the cases are too difficult.

As a matter of fact, quite a number of communications have reached us assuring us of the deep interest of the writers but regretting their inability to venture solutions of the problems so far presented.

These communications form the very antithesis to General Acheson's letter, and, therefore, merit earnest consideration.

Personally, we do not believe that we can be accused of selecting difficult cases. When one or two problems really required specialistic training, we admitted it beforehand, our sole reason for their presentation being to afford those of our readers who specialize in surgery an opportunity for mental practice. As a general rule, however, the cases have been selected from the Editor's experience, and they were chosen because ability to diagnose them correctly meant a real advantage to all concerned in every-day practice.

Extremely rare cases are of little practical interest and these have been avoided. Whenever a case has been presented without sufficient data for a diagnosis, the aim was, to cause to think what it possibly might be all about, with a view of arriving through one or more means at a definite diagnosis, if humanly possible to do so. That, we believe, is the strong feature of the Seminar and, without it, the Seminar would be a lifeless piece of work.

Dr. Junger, of Soldier, Iowa, sends us a really interesting diagnosis of what is the matter with the Seminar: The boys have an acute exacerbation of chronic fishing-tacklitis and camp-hyperpyrexia. We envy those readers who are so afflicted and our only regret is that we cannot take the cure with them.

To all readers who have sent the Editor an encouraging note, the writer extends his sincerest thanks and the promise to try to merit their confidence.

Dr. Acheson's Surgical Exercise.

In the June issue, General Acheson presented a case which we recapitulate in its essentials:

A farmer's wife, aged 49, multipara, had suffered for a long time from external and internal hemorrhoids, which became inflamed. Menstruation, during the past few months, has been irregular, missing a couple of periods. The last period occurred February 1st, not reappearing up to March 16, on which day Ball's hemorrhoidectomy was performed. Five large hemorrhoids have been removed typically by the well-known method of ligature and excision.

PAST HISTORY

Female,	Multipara.	Hemorrhoids (mixed).
Age 49.	Difficult labors.	Irregular menses (lately).
Farmer's wife.	Instrumental Deliveries.	

PRESENT HISTORY

Ball's Hemorrhoidectomy.	Fifteen days after operation:
Catheterized for 3 days.	Fever and pain.
Thirteen days after operation:	Intermittent bearing-down pains.
Pain radiating from back.	Frequent scanty urination.
Frequent desire to urinate.	Temperature and pulse normal.
No temperature, nor acceleration of pulse.	Vaginal and rectal examination negative.
Urine negative.	
Pain on active motion.	

Nothing noteworthy occurred for about two weeks following the operation, when the patient complained of severe pain in the lower part of the back, passing round over the crests of the ilia to the hypogastrium, with a desire to micturate very often.

Physical examination, the next day of the attack, revealed nothing special, except that the patient suffered from pain in the back when attempting a movement of the body while in bed. She was given some benzyl benzoate tablets, and the next day reported improvement.

The following day, Dr. Acheson made an uncomfortable journey to the country to see the patient, because of complaint that her symptoms had recurred more intensely than before. He found his patient fairly comfortable but still complaining of bearing-down pains in the back and hypogastric region, frequent and scanty urination and some headache. Beyond a little tenderness on pressure over the hypogastrium in the middle line, nothing abnormal could be detected on physical examination, which included the rectum and vagina. There was no rise in bodily temperature nor increase in the pulse rate. Uterine sedative and nervine tablets proved efficaceous, and the patient eventually was rid of her troubles. Dr. Acheson was, for the time being, rather worried about this case. Now, however, he accepts the whole situation as representing nature's attempt to restore the catamenia.

Of several letters dealing with the above case, the two following are interesting:

Discussion by Dr. R. B. Gray,

Because I differ with the Doctor presenting the case, is no argument in favor of my being right. He has the advantage in that the patient regained health under his guidance.

By way of approach and to simplify matters, I would first arrange the symptoms into past and present.

Deduction, or diagnosis: Nature's attempt at restoration of catamenia. Being a female, patient is liable to diseases of her sex.

An age of 49 suggests menopause and attendant disorders and physiological phenomena. Like the lines in "Mikado," however, being a farmer's wife "has nothing to do with the case." The history of several instrumental confinements may account for the occurrence of hemorrhoids. The irregular menses may be due to "change," or approaching menopause.

The hemorrhoids link the past with the present and were the beginning, if not the cause, of the present difficulty.

Ball's hemorrhoidectomy done under the usual technic and, I presume, general anesthesia, affords reasons for the retention of

urine, for, it is almost an aphorism of surgery that rectal operations under general anesthesia produce retention for two or three days. This leads to the bugbear of catheterization with its attendant chances of infection, or what was formerly known as "catheter fever."

Being, as I infer, still confined to the bed, and no doubt hesitating to get off her back, the weight of a large abdomen (if she has one) superimposed over the arch of her back, has a tendency to bend her back the opposite way and so produces strain and pain.

While removed by days from the anesthetic, we still bear in mind ether backache; also, keep in mind kidney crisis and tabetic crisis. The best of men have been fooled by our old friend, Lues the Invisible.

Lack of temperature, normal pulse and negative urinary findings make us look elsewhere than to urethra, bladder, ureters and kidneys.

Pain on voluntary motion leads us to think of parts used in motion, muscles and ligaments attached to the spinal column.

Fifteen days after operation, the patient is said to have pain of an intermittent character, bearing down, and scanty urine. This type of pain is found in some kidney condition, such as stone; and (what is more important from a clinical standpoint, since it does not show up on x-ray,) pus and unorganized detritus can give colic. Even waxed catheters will not help in diagnosis, but they may dislodge stones and thus aid in treatment. Scanty urine may be due to lack of the best diuretic—water.

Vaginal and rectal examination is negative. There is tenderness over hypogastrium.

This is the place where the Doctor and I part company. His diagnosis is "Nature's attempt at restoration of catamenia." I disagree. I do not think that Nature would resort to all this trouble to restore a function which usually ceases at or before the 49th year. And I am led to believe that the patient got well without restoration of menstruation.

I am led to conclude that catheterization was at the bottom of the condition. Or, what is more likely if more difficult to prove, the patient may have had an ascending lymphadenitis from the rectal operation, as there is a certain amount of trauma with any operation, a breaking down of acquired barriers to infection and a chance of the introduction of an added infection. Anyway, the three chains of ano-rectal lymphatics have more work to do, become swollen and, by inference, can produce the phenomena recorded.

Of the treatment, I have little to say. We know that the recorded pharmacology of the benzyl compounds leads us to think that they affect unstriated muscles only.

Discussion by Dr. E. C. Junger

Operations for the removal of hemorrhoids are by no means insignificant surgical procedures. Certainly, the patients have much cause for various complaints following this class of operations.

It must be borne in mind that, quite often, hemorrhoids are merely the expression of some important pathologic disturbance higher up, the liver, the kidneys, the heart and even the stomach having the primary responsibility for the development of that most annoying of rectal troubles, viz., hemorrhoids.

But, even when no such primary pathology exists, that is to say, when the development of the hemorrhoids is solely due to some local cause, operations involve sufficient trauma, including sections of nerves, to produce reflex phenomena and result in circulatory disturbances which in turn cause back pressure and edema, all of which will give rise to a variety of disagreeable symptoms within the pelvis.

If there is no such complication as tumor of the uterus, laceration of the cervix or pronounced malposition of the uterus, the prognosis need cause no worry.

Editor's Note.—It has been impossible to submit the above two letters to General Acheson for reply. The discussion is still open. Indeed, the Editor desires to add a few remarks on this exercise, and the readers are urged to send in their opinions at once, to insure publication in the September issue.

A Study in Blood-Counting

A laborer, aged 48, father of several healthy children, with no other family and personal history than that, eight or nine years ago, he lived in Texas and suffered from an acute attack of Texas fever, had been under the care of a local general practitioner for some weeks. His condition becoming alarming to his wife, you are called in consultation.

The physician in charge tells you that the patient began to suffer from headaches and general malaise, and, while there were no chills, the patient had been forced to remain in bed and had lost weight. Outside of a general typhoid condition, there was nothing noteworthy, the temperature being rather high as compared with the pulse—104° against 100; respiration apparently normal numerically though rather shallow in excursion.

The physician noticed a "tremor" in the left upper abdomen and interprets this to be an enlarged spleen due to the malaria.

Your own examination shows a profound toxic condition. The tongue is heavily coated, the breath foul, the lips parched and the teeth are covered with sordes. Thorough physical examination reveals nothing abnormal otherwise. On deep palpation in the left hypochondriac region, you detect a tumor, oval in shape, apparently not connected with the intestine and, while the tumor is ill defined, it is movable to a limited degree.

A sample of urine is obtained and examination shows a trace of albumin and amorphous urates. There is no sugar, nor do you see any pus or blood cells in several slides.

The blood count, which you ordered with a view of determining a possible malaria, shows: Erythrocytes, 4,700,000; leucocytes, 30,000, with 90 percent polymorphonuclears. Plasmodia were not found. The Widal test, too, is negative.

Requirement.—The clinical picture together with the blood report should show us the way towards a correct diagnosis. While no absolute diagnosis can be made as yet, we know the road to our goal.

NOTE.—This case is not difficult and, what is more important, a real one such as may occur very often in any physician's practice. A false diagnosis leads to disappointment and failure—a correct diagnosis to a cure.

The Editor desires every reader to send in his solution or idea about the character of the case. No names or only *noms de plume* will be published whenever such a request is made.

[*Concluded from page 550.*]

in obtruding itself upon my consciousness.

I am not going to write a poor editorial, if I know it; so, I shall not write any, content to pass the sonnet and the thought on, certain that it will have the same intriguing effect on many of my readers. What does it make you think of?

THE STORM

THIS morning's sun rose clear and bright to greet
The world and send its rays to cheer the earth.
But, e'er the day was done, he met defeat
And hid his face before the storm had birth.

The darkness grew and covered all the sky,
And from the west the thunder rumbled low—
'Til—full in volume, gave its mighty cry—
Then fled—turned back and struck another blow.

A strong north-easter lashed the lake to foam,
The rain beat sullenly upon the shore;
Then, suddenly—the wild wind ceased to roam,
The storm had passed—the thunder came no more.

So evening came—and with it a sweet rest
Which seemed to say, the storm was for the best.

—DOROTHY ELOIS WILLIAMS.

June 5, 1923.

The General Practitioner

Talks About Professional and Personal Problems
Conducted by WM. RITTENHOUSE.

The Boy and the Farm
(Continued)

I Go a-Fishing

WHEN the spring floods from melting snows and April showers swell the streams bank-full, the various kinds of fish run up the creeks seeking a spawning ground to deposit their eggs. This is a time of excitement for the boy. When we had a few hours to spare, we could go spearing fish, or catching them with hook and line or net, in the lakes and ponds. In shallow streams, we even caught them with our hands when they were trying to make their way up a rapid. This spawning instinct is so strong in some varieties of fish as to be one of the wonders of nature. They leave the sea or the lakes, traveling ever up stream and surmounting obstacles that would seem to be beyond their power. They struggle over shallows a fraction of an inch in depth; they fight their way up rapids and even leap considerable waterfalls. Always pushing up and up, they surrender life rather than turn back. None of these fish ever reach the sea again; when they have deposited their eggs on the spawning-grounnd, they soon perish.

Every one knows the mild but pleasant thrill of fishing with hook and line; but few are familiar with the more intense excitement of spearing fish from a canoe at night. A torch is fixed at the bow of the boat; the fisherman stands just back of the torch with his spear ready poised in hand. A fish, attracted by the light, comes along to the surface of the water to see what it is; his curiosity is fatal to him; a quick thrust of the spear, and he is on his way to the frying-pan.

Haul In!

Another method of fishing, that has almost disappeared, is the use of the draw-seine. My father owned one and it provided us with many a half-day's sport and with abundance of food. It was six feet wide and an eighth of a mile long. One edge had a row of cork floats, the other a row of lead sinkers; the result being that it would hang vertically in the water. Starting at a given point on the shore, we would pay it out from a row-boat, rowing in a semicircle—and bringing the other end ashore not far from the starting point. Then we would haul in at both ends and, of course, all the fish within the semicircle were doomed. At the last, it was quite an interesting sight to see the mass of struggling fish crowded together trying to escape. As they were gradually drawn up on the beach, we selected the finest and let the rest go. A single haul would sometimes yield a wagon load of fish. Most of them were bass, pike, pickerel, catfish, eels, and various smaller kinds. Great was the excitement if, as the semicircle narrowed, a six- or eight-foot sturgeon was seen fighting like a tiger to escape from the ever contracting noose. The sturgeon has great strength, but is not dangerous, as his mouth is on the under side of his body and is practically without true teeth. A large pike is a much more dangerous antagonist to deal with, as his large and powerful jaws and sharp teeth make it necessary to use circumspection in giving him his death-blow. The sturgeon has one feature of his anatomy that interests the boy; nature has given him a solid nose that projects several inches in advance of his mouth. This nose is of cartilage, so far as I know the most elastic substance in nature. Many a time I have whittled this cartilage into a round ball which would bounce several times as high as a rubber ball of the same size.

Sheep—Quiet, Fond and Few

From corn-planting in May to haying in June was a time of comparative rest for the farm boy, although our fathers had a way of finding some occupation to keep us out of mischief, such as picking stones, cutting weeds, repairing fences, and the like.

This was also the season for sheep washing and shearing. For the washing, we sometimes built a dam across the creek that ran through the farm. I believe every boy loves to build a dam and, when space permits, to

construct a water-wheel below it. When the water was low in the creek, we drove the sheep a mile or so to a pond where the water was deep enough to take a sheep into it instead of washing them in a vat or tub filled from the creek at home.

There is a peculiar property about the oil of a sheep's wool or that of his body. It can be cleansed in plain water without the use of soap. One can take a sheep that has been accumulating dust and dirt in his fleece for a year, until it is difficult to tell a black sheep from a white one; one can plunge him into a pond or creek, squeeze his wool with one's hands over and over again, until finally his fleece is so white that his own mother would not recognize him, and all without a bit of soap. There must be some peculiar property in the oil that makes it soluble in water. I have often assisted in killing a sheep, and then washed the grease from my hands in plain creek water without a particle of soap.

If the weather was fair for three or four days after sheepwashing, the sheep were dry enough to begin shearing. The shearer squatted on the barn floor, took a sheep in his lap, and proceeded to "undress" him with the old-fashioned sheep shears, beginning at the neck. The modern clippers, whether operated by hand or power, are a great improvement on the shears, both as to speed and safety. A sheep's hide is very loose, and it takes some skill to avoid clipping off pieces of skin with the shears, while the clippers are protected. A shearer's skill used to be judged by the number of bleeding spots he left upon the patient creatures. If these spots were numerous, he was sure to receive a shower of sarcastic remarks from his comrades or from the boss. He was informed that it was easier to skin a sheep after it was slaughtered. The poor sheep had to grin and bear it.

The Rank Green Corn.

In June, it required active work to keep down the weeds in the corn and potatoes. The boy early learned to use the hoe and, when these crops were worked with the horse cultivator, the boy sometimes had to ride the horse to guide him; for an untrained horse would trample the growing crop. After some experience, most horses learned that they must not step on the plants. Horses vary in intelligence just as people do; some learn with a quickness that is almost uncanny not to step on the crop, while others are so stupid that the idea of stepping between the rows instead of upon them seems never to enter their heads.

The Fragrant, New-Mown Hay

About the 20th of June, haying usually began, bringing new experiences to the boy. If he was small, his task was to carry water to the thirsty workers in the field, and usually something besides water was carried in a black bottle. On all special occasions of work requiring unusual expenditure of physical energy, it was supposed necessary to supplement the natural forces of the working man by moderate additions of "old rye" to the pure, cold well water which was the ordinary drink on the farm. Haying, harvest, threshing, hog-killing and wood-sawing were some of the occasions when the black bottle made its rounds.

Caught in the Act

I recall a little adventure that always comes back in my memory when my mind runs on those days. I was too young to help handle the hay, but old enough to carry "water and" to the men at work in the hayfield. I had never tasted the contents of the black bottle, though often wondering what it was like; but my inquiries had been met with the assertion that it was not good for boys.

One hot morning, I had just carried cooling drink to a group of men who were "turning" the partly dried grass to hasten its curing. To keep the water as fresh as possible, I had set the tin pail and the black bottle in the shade of a tree in a fence corner to wait for the next round. I sat down on the grass beside it and divided my attention between my little dog and the birds, bees, and other live things that happened to be about. The men were working down the field and, consequently, had their backs towards me. Suddenly, the thought occurred to me that this would be a good chance to find out what "brandy-wine," as we called it, tasted like. I glanced at the men—they were all facing the other way. I raised the bottle to my lips—but I had failed to consider what a fool dog might do. Just at that moment, he barked—I never knew at what—perhaps at my unusual attitude. At any rate, he barked, and the men all looked up. I was caught. One young fellow who taught school in winter and worked on the farm in summer and who was rather proud of his smattering of Latin, said I was a *corpus delicti*, and the name stuck to me for a long time. He meant that I was caught *in flagrante delicto*, but he had got mixed in his Latin. Whether he was right or not, I am sure I never felt so guilty in my life. The story of my betrayal by my dog was passed around to the family and the

neighbors, affording them much amusement and costing me much humiliation and many secret tears.

The Swish of the Scythe

Haying in those days was not the simple affair of today, when every part of it is done by machinery. Although horse mowers were in use to some extent, many of the fields were so obstructed by stumps and boulders that a scythe was the only practical instrument for cutting the grass, and a hand rake the only means of gathering up the hay. Today, the grass is cut with a horse-drawn mower, tedded by a horse-drawn tedder, raked with a sulky rake and, as the wagon is driven along the windrows, the hay is loaded with a patent loader and is even put into the mow by horse power. In fact, instead of doing all this laborious work by hand, the farmer spends his time in riding comfortably about the fields on the various machines.

Swinging the scythe was rather hard work for a boy, although, when he caught the knack of it, it was easier than it looked. Mowing with a scythe left the newly cut grass in a windrow which had to be tedded, or scattered, to promote drying. This was work for the boy, and so was raking when dry.

From Sickle to Self-binder

When harvest set in, a couple of weeks later, the same obstacles in the fields prevented the use of reaping machines, and consequently much of the grain had to be cradled by hand. This is hard work, hard enough for the very strongest. The man who can swing a cradle in the July sun all day in stout wheat, is a prodigy of muscular endurance. Even binding sheaves after a cradler is too hard work for a boy, and so is pitching the sheaves on to the wagon or the mow. In fact, all harvesting is heavy work and this is why machinery has so completely taken the place of muscle in the modern harvest field. The steps in this development are interesting. From the sickle to the modern harvester is a long succession of inventions. First, primitive man grasped a handful of the ripe grain and cut it off with his hook-shaped sickle—a slow process. Next came the scythe, which was more rapid but had the disadvantage of leaving the straw tangled. So a light wooden frame was attached to the scythe, and, behold, a cradle which laid the stalks down straight and ready to bind. Then followed the horse-drawn reaper, very clumsy and crude at first, a man with a rake walking behind to pull off the bunches or sheaves; then the man rode on the machine; next, the machine did the raking off; and when, at last, the machine tied the sheaves and cast them to one side out of the way, it was thought that perfection had been reached. But soon the machine cut off only the heads, leaving the straw standing, and finally the machine threshed the heads, and dumped off sacks of clean wheat, instead of sheaves that were seven-eighths straw. All these inventions have made farm life a very different affair to the farmer's boy.

The Flail Is Obsolete

After harvest came threshing, and to the boy this was chiefly an interesting "event," because most of the work was too heavy for him. He liked to watch the machinery, and he enjoyed the increased number of workmen, partly because the meals were better than usual (the chickens being levied upon), and because, the more men the more fun.

Cherries Ripe!

One pleasant feature of the midsummer days was the cherry harvest. The boy could indulge his propensity for climbing by helping pick cherries; or he might be kept busy frightening off the birds, who were inclined not only to eat their fill, but, what was more important, to spoil far more fruit than they ate, taking a bite from one cherry and then passing on to wound another.

We got considerable amusement from the various devices we used to fool the birds. We put a scarecrow made of old clothes stuffed with straw into the cherry tree. At first, the robins and woodpeckers were deceived and kept their distance, but they soon learned that the figure was harmless, and even perched upon it to show their contempt. But, when we fastened a stuffed owl or hawk in the tree, their terror was comical to see. Sometimes the leaves were so thick that a robin found himself quite close to his old enemy before he discovered him. The scream of terror and the quick escape was fun for us if not for the robin.

After the main crop of cherries was picked, the "scatterings" that were left on the trees were claimed by us as a source of pocket money. We picked and dried them, and there was always ready sale for dried sweet cherries.

Becoming a Capitalist

The satisfaction felt in earning pocket money by our own efforts must be experienced to be appreciated. The boy who gets an "allowance" or who begs dimes and quarters from an indulgent parent has no real idea of the pleasure of feeling rich. Larger sums, won in after life, fail to give the pleasure of the dimes really earned in boyhood. When I

was eight, I had accumulated 27 cents and felt the need of a purse. After much searching at the village store, I bought a pretty bronze leather purse with steel snap, for 25 cents. My brothers and sisters made merry over the idea of owning a 25-cent purse to hold 2 cents; but I said "Just you wait." I had plans in mind. The next summer, the laugh was on my side, as the little purse grew heavier as a result of planting corn, hoeing for a neighbor, doing errands, selling cherries, berries and nuts. When, in October, I sold several quarts of chestnuts, the little purse was well filled, and I loaned some of it to my father at six percent interest, feeling the satisfaction of having an "investment" instead of having spent it on trifles. It was a lesson in industry, thrift and economy that could not fail to have its value in after life.

The Glorious Fall

After threshing, the fields were prepared for sowing with winter wheat early in September. Then the corn had to be cut and husked, and the pumpkins hauled off the cornfields and piled under the shelter of an apple tree near the barn. Hauling home the golden globes and later watching the gusto with which the cows devoured them was all pure pleasure, and so was drinking the rich, yellow milk resulting from them.

On reflection, it seems to me that no other time of the year can afford the boy on the farm as much pleasure as autumn. The apple and peach harvests were one long-drawn pleasure increased by the glorious, golden sunshine. The winter apples were carefully picked by hand to avoid bruising, packed in barrels, and stowed in the cool "barn cellar" for the joy of the long winter months. Whoever has never inhaled the fragrance of a barn cellar has missed something. In fact, one of the charms of autumn on the farm is the variety of fragrant smells exhaled by the various gifts of bountiful nature. One could write an article on the fragrant smells of autumn, but the trouble would be that it could only be appreciated by those who had inhaled those perfumes on the farm itself.

Then there is cider making—a whole article could be written on it and the way it may be done and should be done. It is today a lost art, but fifty years ago—what a delight! There was sweet-apple cider for apple butter, sour apple cider to be clarified for winter evening entertaining; there was also "hard cider"—vile stuff, wrecking many a life, but rejected by most farmers. I would give a good deal to quaff once more a cup of "sweet" cider—not one sour apple in it—and to inhale the various fragrances of an old-fashioned wooden cider mill. Such a mill was one of the most simple and yet ingenious contrivances ever made by man. It could be built by a wood worker with very simple tools, and yet was most marvellously adapted to obtaining the results for which it was intended.

I think the boy who has followed this article will admit that life on the farm may have some interesting features.

2920 Warren Ave.

UNITED FRUIT COMPANY: REPORT

United Fruit Company. Medical Department. Eleventh Annual Report. 1922.

One of the recent innovations made by the United Fruit Company, in August 1922, was the inauguration of a free medical radio service and consultation of its hospitals and steamships and all ships at sea. This free medical service was established primarly for the benefit of ships not carrying doctors. However, in case of need, ships' doctors may consult by radio with the United Fruit Company's doctors, either abroad or ashore.

Like its predecessors, this latest annual report of the United Fruit Company, Medical Department, is extremely interesting in many ways, especially to physicians having to deal with tropical diseases. The medical service was constrained, in the course of its activity, to utilize the lessons of preventive medicine, especially with reference to tropical diseases, the results of which are splendidly evident in the tables contained in this report.

It is well known that this company maintains several beautifully-constructed and equipped hospitals with efficient medical and nursing service. Employes are treated in these hospitals rather than in their homes or quarters, as would be the case very often in northern latitudes. The value of exercising careful supervision over the health of employes, from an economical as well as a humanitarian standpoint, is self evident.

In the report, there is enclosed a pamphlet containing a brief review of the digestive functions and food requirements for the maintenance of health with particular reference to the tropics, by W. E. Deeks, M. A. M. D.

Let's Talk it Over

Active-Principle Materia Medica

With Physiological Effects and Therapeutic Suggestions

By WM. T. THACKERAY, M. D., Fowlerton, Texas

[*Continued from July issue, page 512.*]

Mercurous Iodide

Physiological effects:—Analogous to that of the Biniodide of Mercury, but milder; produces diarrhea before salivation.

Therapeutics:—Used in the same class of cases as the Mercuric iodide, but in larger doses and with less fear of mercurialization.

Dosage:—¼ grain three or four times daily to effect. The drug should be discontinued when catharsis occurs, or else the dose should be reduced.

Morphine Muriate

Salt resulting from the chemical action of hydrochloric acid and morphine, one of the alkaloids of opium.

Physiological effects:—In small doses, the first phenomena observed are the excitement of the circulation, evidenced by a fuller and quicker pulse and by an increase of heat and by flushing of the periphery of the body. This period of excitement, which may be more or less durable according to individual idiosyncrasies and the amount of the drug absorbed, is followed by fullness of the head, giddiness, ringing in the ears and, frequently, nausea. Deep-seated epigastric pain is often felt, and loud borborygmi occur. The vertigo may be such as to render locomotion unsteady, staggering, or the upright posture impossible. Injection of the conjunctiva and contraction of the pupils occur at the same time that the cerebral effects are felt. The lips have a bluish appearance, the mouth and tongue become dry, the voice is husky, and deglutition difficult and painful. When these physiological effects are produced, pain and spasm are relieved, a sense of happiness permeates the individual and either somnolence (which is the most common), or wakefulness, with intense mental activity, is experienced. The sleep is frequently unrestful and disturbed by dreams and visions, with difficult awakening.

The respiration is slow, noisy and labored, and the cardiac beats are lessened in number, but the pulse is harder.

The mucous membranes and the skin, at first dry, are afterward moistened by perspiration; itching of the nose or of the whole body is felt. The after-effects (headache, nausea, vomiting and dizziness) occur in the majority of cases.

Therapeutics:—Indicated in all neuralgias, nervous irritation, incipient inflammation. Frequently associated with Hyoscyamine, for it is seldom that pain is isolated from spasm. Also useful in catarrhal affections accompanied by mucous hypersecretion.

Dosage:—1/64 to 1/12 grain may be given every fifteen minutes until sedative effect, in connection with either Atropine or Hyoscyamine if required to control spasm.

Morphine Hydrobromide

Salt resulting from the chemical combination of Hydrobromic acid with Morphine, the principal alkaloid from opium.

Physiological effects same as Morphine Hydrochloride.

Therapeutics:—Specially indicated in meningeal inflammations.

Dosage:—1/64 grain repeated every fifteen minutes until effect.

Morphine Sulphate

Physiological effects and *therapeutics:* Same as given for Morphine Hydrochloride.

Dosage:—1/64 to ¼ grain, repeated as may be necessary. The ¼-grain single dose should rarely be exceeded.

Muscarine Sulphate

Salt resulting from the combinations of the alkaloid of Amanita Muscaria (Fly Fungus) and sulphuric acid.

Physiological effects:—In small doses, promotes abundant perspiration (second only to Pilocarpine), lacrimation and increased secretion of the glands of the Schneiderian membrane, and of the saliva; though the latter, not infrequently, lacks activity in the presence of the hypersecretion of the sweat glands. The pancreatic, biliary and intestinal mucous

secretions are increased, as well as peristalsis. The cardiac and respiratory actions are slowed. Topically on the eye, it is myotic; otherwise administered, a mydriatic. The urinary secretions are lessened, but the urine is so loaded with the eliminated drug that a series of intoxications will be produced with this fluid transmitted from one animal to another. Its toxic power undergoes only a slight decrease after its passage through several.

Therapeutics:—Indicated in catarrh, catarrhal jaundice and constipation due to torpidity and insufficient intestinal mucous secretion. In incipient pulmonary congestions and pulmonary hemorrhages, its power of contracting the capillaries of the lungs renders it a useful agent, although not so effective as Atropine. It is also useful in the night-sweats of phthisis, diabetes, and to arrest the secretion of milk.

It has many other indications in common with Atropine, which are, however, better met by the latter.

Dosage:—1/250 grain every half hour until effect.

Myricoid

Concentration from the myrica cerifera (wax myrtle).

Physiological effects:—Small doses stimulate the vegetative system of nerves, aiding digestion, blood making and nutrition. In larger doses, it is a decided gastric stimulant. (Lloyd).

Therapeutics:—Indicated in profuse mucous discharge, gastrointestinal catarrh, atonic diarrhea, typhoid dysentery, atony of the cutaneous circulation, full oppressed pulse.

Dosage:—1/6 grain to 1/3 before meals.

Napelleine

Alkaloid from Aconitum Napellus and other varieties of Aconite. (Monks Hood).

Physiological effects:—Besides its action resembling that of Aconitine, but in a lesser degree, it possesses valuable hypnotic properties, to be utilized instead of opium and chloral.

Therapeutics:—Indicated in the same cases as Aconitine, and also in conditions of wakefulness, mental excitement and allied states.

Dosage:—1/500 grain every hour until effect.

Neuro-Lecithin

This product is an ester of the stearic, oleic and palmitic acids with glycerophosphoric acid in chemical combination with choline.

Physiological effects:—Stimulates body growth. (Danilewsky). A general nutritive tonic (Sollman). As an organic phosphorus body, Lecithin assists nutrition powerfully by constantly diminishing the elimination of phosphorus from the body. Lecithin is a powerful bioplastic and morphogenous agent modifying favorably the organic changes of the organism.

Therapeutics:—Indicated in phosphaturia, marasmus, arrested growth or development, sexual debility, and in all neurasthenic conditions, loss of tissue and chorea.

Advantageously used in connection with Nuclein.

Dosage:—½ grain three times daily between meals.

Nickel Bromide

Physiological effects:—Like other bromides, this sedates the functions of the brain, dulls the sensibility of the faucial mucosa, and allays irritability of the sensory nerves. It sedates sexual functions without destroying desire, rendering erection impossible. A like influence is exerted on the ovaries. The reflexes are sedated, the motor power is diminished and vascular tension relaxed. The heart is slowed and weakened, but not so much as by potassium bromide. Very large doses slow the respiration and lower the temperature.

Therapeutics:—Cerebral fullness and irritability in children are relieved by a few small doses, but as these usually come from some more or less irritating substance in the alimentary canal, a dose of castor oil (although less pleasant) is undoubtedly more rational and effective. (Waugh and Abbott).

A well-tolerated antiseptic and nerve tonic, especially valuable in some forms of epilepsy. Combined with Sodium Arsenate or Gold Bromide, it gives excellent results in neurasthenia, hysteria, the vague nerve-storms of the climacteric, etc. (Waugh).

Dosage:—1/6 grain, one to three, three times daily. In epilepsy, 1 grain should be given two to four times daily, to effect. The drug should be stopped or the dose materially decreased if hardening of the gums, fullness of the head, or rise of temperature occur. (Waugh).

Nuclein

Procured from live cereal germs.

Physiological effects:—When administered hypodermically, nuclein promptly produces a rapid increase in the number and activity of the leucocytes. This increase varies somewhat with the subject and the disease from which he suffers, but in all cases there is a most decided augmentation. The polynuclear cells are particularly affected. The administration of nuclein has been shown to increase the

bactericidal power of the blood many fold.

The effect of a dose passes away in from thirty to forty-eight hours, hence the necessity of continuous administration. Care, however, should be exercised not to overwork and thereby exhaust the cells. In some cases, the exhibition of large doses at longer intervals is better than the continuous use of smaller doses. (Waugh and Abbott).

Therapeutics:—Indicated in all cases of infection of the system as well as in all anemic and chlorotic conditions. If given by the mouth, it is necessary to give it on an empty stomach and to give no water, so as to secure quick absorption from the buccal mucous membrane and the stomach. In phthisis, its administration is followed by a prompt fall in temperature and a general amelioration of all symptoms. Indolent ulcers take on a new aspect, and, as granulation progresses normally and rapidly, are soon healed. In typhoid fever and other diseases where marked deficiency of leucocytic action is evident, it is an excellent adjunct to all modes of treatment, and the worst of these will produce better results with nuclein than the best without it. In malarial dyscrasias, in intestinal and gastric difficulties and, in fact, in all forms of disturbed metabolism and, therefore, faulty cell repair, this agent should be used freely. The list, if carried out, would thus embrace all conditions of lowered vitality, the acute infections, such as diphtheria, tonsillitis, typhoid fever, typhus and all of the exanthemata, most disorders of the liver and all the diseases of the skin. (Waugh.)

Dosage:—When a rapid and marked leucocytosis is desired, the dose should be 10, 15 or 20 drops and be repeated every three or four hours. If, however, the general tonic and sustaining effect of nuclein is desired, the dose should be small, 5 drops being the maximum, and this should be given not oftener than three times, or better, twice, a day. Nuclein should not be taken within an hour of eating. The best time is, when the stomach is most nearly empty, as absorption is more rapid and there is not the probability of chemical change taking place. When the digestive function is active, there is an undoubted loss of effect. It is best to hold the nuclein in the mouth to be absorbed thence directly.

Papayotin (Papain)

An enzyme from the unripe fruit of

Carica Papaya (Pawpaw)

Has the advantage over Pepsin in its nonliability to form cadaveric alkaloids.

Physiological action:—A digestive which has the power to soften or digest fibrin or albumin, either in the presence of an acid or an alkali.

Therapeutics:—Useful in the same class of cases as pepsin.

Dosage:—1/6 to 1 grain, after meals.

Pepsin

An enzyme prepared from the lining membrane of the stomach of animals used for food.

While there are some objections to the use of Pepsin in some quarters, the usefulness of it, in selected cases, is unquestioned. To be given when indicated with a few drops of dilute hydrochloric acid.

Dosage:—One grain directly after meals with water, preferably hot.

Physostigmine (Eserine) Salicylate

The salt of an alkaloid obtained from the ripe seeds of the physostigma venenosum. (calabar bean).

Physiological effects:—It depresses the nerve centers and kills by paralyzing the respiratory center. Consciousness is intact after the respiration is gravely affected and the muscular force weakened.

Muscular twitching occurs, and the irritability and power of the muscles are increased by moderate doses. The respiration is at first faster, then becomes slow and weak. Small doses slow the pulse and raise vascular tension, larger ones slow the heart still more and the pressure falls. The action on the heart is direct, not through inhibition.

In the spinal cord, it destroys power of transmitting impressions, produces paralysis of the muscular fiber, striped or unstriped, and stimulates the secretory system, chiefly the action of the alimentary mucous glands. Topically, it destroys the contractibility of the muscular fiber when applied to the muscles, and contraction of the pupil when applied to the eye.

Therapeutics:—Instilled into the eye, it is used in certain diseases of this organ, e.g., wounds and ulcer of the cornea, and, from its lessening intraocular tension, it is used in glaucoma and staphyloma. It removes the dilatation of the pupil and paralysis of accommodation, after the use of Atropine and, alternately with the latter, breaks down adhesions after iritis. The strength of the Physostigmine solution is generally 2 grains to the ounce of distilled water. Internally, it is useful in constipation due to atony of the intestinal muscular fibers, with scanty glandular secretion. Also, in chronic bron-

chitis and pneumonia with scanty expectoration, and dyspnea due to weakness of the bronchial muscular fibers, in muscle wasting from paralysis, in diseases of the nervous system, such as locomotor ataxia, general paralysis and writer's cramp. Also in tetanus.

Dosage:—1/1000 grain, one or two every hour until effect, passage of flatus or catharsis; stopping if pulse softens markedly. Maximum safe single dose, 1/30 grain.

[*To be continued*]

DR. BRYCE'S TALKS

An Accommodating Rectum

Many years ago, I was called to see a man who was suffering from an accident, both peculiar and amusing and which illustrates to what an extent the rectum may be abused and escape any real injury. The party was a workman in the city gas plant who had undertaken to give himself a general washing up with a bowl of water, in his room, before putting on his clean clothes for a Saturday night's lark. He had about finished his ablutions and started across the room to empty his bowl into the slop jar, when he stepped upon a soapy spot and, as his heels flew from under him, he held on to the bowl and landed squarely upon his naked buttocks. By some strange chance, there happened at that exact spot the upturned body of a wooden tumbler from which the foot had been broken and its bottom trimmed to a perfect acorn point, which struck him *plenum sed* in the bull's eye. It was driven into the rectum and beyond the sphincter as cleanly and completely as if it had been shot in by a mountain howitzer of old Confederate fame, for the tumbler reminded me very much in size and shape of one of those little shells that Stuart's Cavalry served with his "Horse Artillery."

To properly appreciate the ludicrousness of this case, I must give my first impressions as the messenger called me in person. I lived in an old-style, two-story, long-bodied house sitting far back from the street, so that, when I was called at nights by anyone who knew where my bedroom window was, on the second floor, it more often happened that they would stumble around among my rose bushes and call me from the yard than ring the bell for me to come down. This was in the good old days before electric bells and speaking tubes, when the sleeping doctor was aroused by stamping on the porch floor, pounding on the front door or "hollaring" from the front yard. It was warm weather. I had retired after a very busy day and was suddenly aroused by a loud yelling under my window and a stumbling about among the shrubbery and flower pots in the yard. I observed three or four men looking up as I raised the window and, upon asking what was wanted, was told that I was needed in a hurry "across the branch" to see Jimmy Jones, who had met with an accident.

They seemed to be a little tipsy and very much excited, and their hailing "from across the branch," a questionable quarter of the town, didn't impress me over-favorably towards Jimmy Jones, so I asked:

"What is the matter with the man?"

"Doctor, is there any ladies in hearing?" the spokesman queried.

"What has that got to do with it?"

"It has got a whole lot to do with it."

"Well come up here close and tell me," I said.

As I leaned my head out of the window, he approached as close as he could to the side of the house and cupping his hands to his mouth he said, "Jimmy Jones has got a tumbler up his firmament."

"Got what?" I exclaimed.

"A tumbler."

"Now, here, you get off at once, this is no time of night to be playing smart with me, I'll have you locked up if you don't be off at once," I shot at him.

"Fore gawd, Doctor, I'm telling you the honest truth—the tumbler is up thar and out of sight and still traveling up and he is holding it down in his left side to keep it from going on up into his stomach. You see, it didn't have no bottom, but was trimmed peaked—it was a wooden one," the poor fellow explained.

It dawned upon me what might have happened, and I went as much for curiosity as for any aid I might have been able to render him.

Upon arriving at the scene of disaster, I found a young white man lying upon the bed, minus all clothing but an undershirt. He was on his back and drawn up, holding his hands down over his left iliac space. He was frightened almost to death, and about a dozen of his frolicsome friends, thoroughly sobered by the unexpected occurrence, were standing solemnly around his bedside.

As had been reported, I found that the wooden tumbler had traveled beyond the rectum well up in the sigmoid and, but for his holding it there, would have been carried much further under the air pressure from be-

hind. I made an assistant hold the tumbler *in situ* until I had elevated his hips and thrown up several ounces of sweet oil, and then manipulated the offender down into the rectum and within reach of my straight forceps, with which I finally delivered him of a full-term tumbler which, under his strenuous expulsive efforts and my own traction, left the rectum with a report equal to that of a pistol. The thing measured four inches in length and two and a half in diameter and, strange to say, left him practically uninjured with the exception of a slight hemorrhage and a temporary paralyzed sphincter, which practically cured him of a mild case of piles.

I told this "tumbler tale" of mine at a gathering of medical men, some years after its occurrence, when my friend, a Dr. Sim, an editor of a medical journal of Tennessee, now long since dead, related an experience of his somewhat similar but more serious in results. He said that, early one morning, he was aroused by the violent ringing of a milkman's bell at his front, accompanied by loud yells for his help. Looking out, he observed a man prancing around and holding a bell behind him and ringing it frantically. At a loss to understand the continued ringing, and noticing a crowd of milk customers gathering with their pitchers and buckets around his front gate, he rushed down and admitted the frantic bell ringer. He found that the man had the handle of a big brass bell driven its whole length up his rectum and held so firmly by a spasmodically contracting sphincter that it was impossible to pull it out.

It seems that the man was driving a restless horse and that, while standing up to pour out a customer's milk, the horse started off suddenly, throwing him back violently upon the seat upon which rested the bell. Unfortunately for him, his anus was in the wrong place, or the bell handle was, and bad luck made a pot shot and drove the big wooden handle up his rectum plumb up to the hub. In this condition, the poor fellow ran fully two blocks to the doctor's office unwillingly ringing his bell at every step.

This case was not so fortunate as my own, for Dr. Sim had to chloroform his patient to break the grip of the angry sphincter and, later, to perform a serious operation to repair a badly damaged rectum.

These cases are unusual, but they demonstrate the tolerance of the rectum to great violence with the minimum of permanent injury. In other words, it possesses the advantages of most remarkable accommodation under adverse conditions.

516 N. 10th St., C. A. Bryce
Richmond, Va.

OUR HOMEOPATHIC FRIENDS OBJECT

Your publication has always appealed to me as being fair and unprejudiced; but, please, tell me what have the Homeopaths recently done to you that you should publish as a "Leading Article" the unfair, unwarranted, unprovoked attack on the Homeopath that is contained in the article (June, page 391), on "Some Present-Day Medical Problems," by Dr. Edward H. Ochsner?

I would like to ask Dr. Ochsner a few questions: If Homeopaths are quacks and frauds, just why are they urged to become fellows of the American Medical Association along with honest men like yourself? In what subject or subjects in medical education are Homeopaths lacking? Are they afforded a shorter course or less study or training than the graduates of your socalled "regular" colleges? Are they granted any different state board examinations (excepting in the sole subject of materia medica) than "regular" graduates? Is their preparation for the practice of medicine in any way less "standard" than the preparation of old-school students?

My own information is to the effect that our training and education is IN EVERY WAY equal to that of the old school, in fact IDENTICAL with that of the old school, with the exception of the one subject of materia medica, in which our way is better.

Dr. Ochsner's article is so full of misstatements that about the only way to answer it correctly is, to say that practically every statement made about Homeopaths and Homeopathy is untrue. His entire article reflects prejudice and ignorance of his subject. He goes back to 1842 and finds that Oliver Wendell Holmes knocked Homeopathy. If he will look further, he will find that every truth yet discovered, whether in medicine or in any other science, but especially in medicine, has had its knockers. He can dig up some mighty clever articles making a big fuss about Jenner's vaccination, antitoxin for diphtheria, and in fact, about everything that has been new and good in medicine. . . .

Homeopathy is **the truth** in medicine. It is an **exact science.** It will endure when all other schools of medicine are forgotten. So don't worry about us, Doctor. Homeo-

pathy is used to some extent by a large percentage of the internists in this country and Europe without regard to what school they graduated from. We use it in our own families and we save a larger percentage of our fever patients than was ever possible with the old school system. Homeopathic physicians have brought out and demonstrated the value of many drugs never before used by any school but today used extensively by all schools, Bryonia and Pulsatilla being notable examples. . . .

The Homeopath of today knows as much about general medicine and the action of drugs as the regular does—sometimes more. He rejects nothing he finds valuable and condemns nothing because of prejudice. Does this indicate fraud or quackery?

H. H. J.

One of the first articles I read was that by Dr. Edward H. Ochsner. After reading it, I wondered where Dr. Ochsner had made his study of Homeopathy; when in actual practice he had carefully tried it out to demonstrate its fallacy; where I could find published the recorded data upon which his conclusions were based. Or, were his conclusions based on the fact that it is part of the religious creed of every old-school graduate to heartily hate Homeopathy and all that pertains to it, to fight it to the last ditch, and by fair means or foul to stamp it out root, branch and all? It deserves no investigation, it merits only death; as does any heresy.

Of course, Dr. Ochsner is right; for, he belongs to the majority school, and the majority is always right. They admit it and, so, do not have to prove it.

There are men who have graduated in medicine who are now specializing in röntgen therapy, there are others who are specializing in radium therapy, others who are confining themselves to surgical therapy, others to electrotherapy. Yet, I see nothing in his article to the effect that they are monorail minds, vicious quacks, and doomed to death. Why then, if a graduate in medicine should choose to specialize in internal medicine and, in the selection of his remedy for a given case, follow the law of similars (which is being followed in vaccine therapy, in tuberculin therapy, in diphtheria active immunization, in endocrine therapy, in homostimulation, and is unconsciously and certainly unintentionally followed in much of the medicinal therapy of the regular school) why is such a man a blackguard, an enemy to humanity and civilization; why is his profession to be attacked without investigation and his school to be harassed and fought to the bitter end without quarter?

Never can I be persuaded that it is the love for humanity that prompts this, but only the bigotry that burned heretics in the Middle Ages. It cannot be a question of ignorance concerning the Homeopaths, for, our schools will compare favorably with yours in curriculum and requirements.

Dr. Ochsner rants about the cults and the number of people who are flocking to them. Could it be that the people are driven to the cults by loss of faith or by sad experience with regular physicians, and that perhaps the best way to combat the cults might be to look for the faults in one's own practice rather than to publish bitter diatribes about the cults?

I'll grant that, after putting in four years in a university and four years in a class "A" medical school, then serving in a hospital and in the medical corps before beginning to practice, it is somewhat disconcerting to me to see a local boxer disappear for a few months (I do not recall just how long, but for a period so short that his friends hardly knew that he had left town), then suddenly to turn up as Dr. X, Chiropractor. But, I can assure you that the general public, while they laughed when they saw about it in the paper, would have shed but few tears at my plaint, had I been so foolish as to come out with a statement that my love for the dear people compelled me to protest against their being imposed upon by such an incompetent. I might have had faith in my sincerity, perhaps I might have convinced some members of my family and a few of my brother physicians, but the dear people, whom I was trying to protect—well, you well know what they would say about the money-grabbing pill-slingers and butchers who are only jealous of the professional and financial success of the chiropractors.

So, I have long ago decided that my mission is to help people keep well and to restore to health the sick who come to me by whatever therapeutic means my judgment indicates as being best, even if it be a remedy selected according to the homeopathic principle. I have found that my mission is not to knock and consider as unworthy of even investigation every therapeutic principle other than Homeopathic prescribing.

E. B. J.

Magazines that publish articles like Dr. E. H. Ochsner's, do so at some little risk: The

risk of receiving a storm of protest."

Of course, there is another way of looking at it. A man who will write an article of this nature ought to be beneath recognition by sound-minded and logical persons, and therefore comment should be unnecessary. But the article has been written. It is beneath recognition. Yet, because it has been written, and because it will be read, it behooves someone to call attention to it, lest the misguided, misinformed or simple minded who read will believe.

One might pursue a lengthy discourse to show wherein the article is erroneous; even point out its falsities step by step, and withal tell the reader, besides, the real truths which he should know. However, it is hardly worth the while. For, those who know what the writer does will know for themselves just what an infinitesimal value the article possesses. Those who do not know, need only be told this: If the man believes what he says then his knowledge of the subject matter is indeed faulty.

The article itself is only fit for the waste basket. It does not even offer the redeeming feature of stimulating constructive comment or criticism.

F. N. K.

You may drop me into your waste basket, but, nevertheless, I for one wish to thank you for publishing "Some Present-day Medical Problems" by Dr. Edward H. Ochsner, Chicago, Ill. Tell the Doctor for me to write another one; but, some way, get this article to the old M. D.'s of California. I am sending you a clipping from the "Evening Herald" of yesterday. I should have attended this blow-out last night, but didn't see it in time.

[The clipping refers to graduating exercises for the class of 1923, Los Angeles College of Chiropractic, in which 36 candidates received the degree of doctor of chiropractic; 16 were created doctors of naturopathy; 14 were graduated as philosophers of chiropractic (whatever that may be), and masters of chiropractic degrees were given to 5 candidates. Truly, an impressive shower of academic (?) honors; one that might fill the simple old M. D. with envy if he had not long since learned to value any doctor degree only according to the school by which it was conferred.—Ed.]

For many moons, I have found that, the less I take notice of these *quacks* of old California, the less I advertise them; for, every *"dog* will have his day." If I am called into a case with them, I go, for I wish to see what they do. . . .

B. M. S.

[Regarding this whole discussion, read the editorial on page 546 of this issue of the Journal.—Ed.]

A COUNTRY PRACTITIONER ATTENDS THE A. M. A. CONVENTION

In San Francisco, June 26, 1923.

On the morning of June 25th, 1923, I arrived in San Francisco and, after being comfortably domiciled in one of the leading hotels, I wended my way to the Civic Center, to the Great Auditorium, one of the attractive features of the Golden City.

There were numbers of men standing around. Along the corridor, were several booths with large printed placards in view. Some of the strange inscriptions represented the names of the various secret fraternities which seem to be a necessity in almost all medical schools.

Looking for and unable to find a familiar face, I found myself lost in the shuffle. Small groups of medical men, here and there, were exchanging pleasant greetings and hearty well wishes, as much as possibly doctors can. Finally, at one booth, I asked where I could sign the general register. I was told to go to the left.

One standing at the end of a building that comprises several blocks, and being told to go to the left, is apt to wander around considerably. This is precisely what happened. Nor was I alone, as I met others who also were going left, until, no doubt, in pity for the stranger in a strange land, an onlooker pointed the way, directing me to the table of signatures.

Years ago, as a boy, I remember quite well going to a Sunday school picnic; the meal was made ready on a very long table. When the signal was given to eat, each boy made a run, and it was a case of each grab for himself. Well, there I stood, alone in a Medical Fortress, waiting for the opportunity to place my name on the distinguished list. Finally, a chair was emptied. I made a jump for it. Not any too soon, though, as at my back was a big, square-shouldered Texan (as I learned afterwards) ready to spring. However, he graciously acquiesced when he saw my compressed physique slip in ahead of him.

The attaching of my signature to documents has caused me much disturbance in the past

and, many times, great anxiety in my medical career. Consequently, I have formed a habit of shrinking or even trying to disappear, whenever I am accosted with the request for my hand-writing. Nevertheless, after giving the executive staff of the A. M. A. my name, address, and purpose, I was forced to read that six dollars must bid me farewell before I could gain a seat in the Medical Sanctum Sanctorum.

Years ago, I was a subscriber to the A. M. A. Journal. But, being just a country practitioner, I presume I failed to appreciate some of the extensive, elaborate articles of scientific research. Therefore, I lost hope and gradually laid it aside, until I was suspended for non-payment of dues. Right here, I faced a dilemma: The journal, a fellow, six dollars, and get in; or, no journal, no fellow, and six wheels for the show. Which? I decided on the former.

I stood in line for a long time anxiously wondering whether my credentials would be accepted, as all I had on my person was a receipt card from my State Society, showing that they trusted me. However, it went through without a quiver, and I was awarded a medal, a book, and some pamphlets; the medal to be worn during my stay in San Francisco, and the book, "Medical California," published in a very elaborate style, to be read at my leisure—probably one of the best things of the convention.

Not knowing just which section to choose, as they "all looked alike to me" (the general practitioner, especially the rural type, has need for everything), I crossed on the section of Internal Medicine.

Early on the opening morning, I was on hand, clothed in a receptive mind and armed with a note book. As I sat through the long three hours, I wondered just how much bigger I would be when I arrived home. Subjects were discussed which some may seldom meet; however, they were quite learned and, no doubt, very scientific.

After the reading of some of the papers, if one wished to jot down a few notes, they probably would read something like this: "You can draw your own conclusions," "It is very evident," "A certain percent of cases respond," "It is a significant fact." However, fearing it would be "Love's Labor Lost," I decided to improve my memory instead of wearing out my pencil.

Since that opening morning, I have been given cause to wonder whether or not it would not be wise for some of the members to study the art of the development of the human voice, particularly so, as this has an important place in therapeutics. In fact, I believe that, by adding to the by-laws of the institution, that a diploma showing one to be fully familiar with its use, and that it must be a prerequisite, before one is allowed to speak, would not only greatly enhance the value of the papers, but would also improve the digestion, and perhaps the disposition of some of the listeners.

On my way through the exhibits, I saw many features of interest. Among them were many mechanical appliances that seemed sound and worthy of investigation. Also, it is a well-known fact that one skilled in the use of them may get some surprising and happy results.

As far as I could judge, the convention was a success and it certainly showed that considerable thought and effort had been given to make it attractive; a great deal of credit is due to those who sponsored it. Just what each man got out of it, was up to him. At least, one had a trip, and one was able to see other men who had come from various parts of the globe.

As to the individual's increase in therapeutic knowledge by his having attended, I will leave that for the reader to answer. However, The Journal, which will later follow the trail, will no doubt throw light on some of the dimly illuminated discussions.

"Like a plank of driftwood
Tossed on a watery main,
Another plank encountered,
Meets, touches, parts again;
So tossed, and drifting ever,
On life's unresting sea
Men meet, and greet, and sever,
Parting eternally."

SYDNEY TALBOT.

Nevada City, Calif.

TREATMENT OF SEPTICEMIA AND PYEMIA.

Our treatment of septicemia (also of pyemia) regardless of the source of infection, puerperal or other, has resolved itself into little more than opening and draining what foci of infection might be apparent and available to the knife, and 2-way rectal injections of soda water. Any description of the former procedure in this place would be unnecessary. The latter is easily carried out by means of a "Beck's tube." The metal tube is well vaselined, as is also the anus, and it is best in reference to this latter, that the well-vaselined

index finger of the operator should first be inserted into the rectum, thus determining the exact direction and making the subsequent insertion of the tube a matter of greater ease, both to the physician and patient. In young children, while the same tube may be used, it is of especial importance to first ascertain the general direction of the rectal canal for the first five inches; for, in the event that the rectum takes a sharp sigmoid or other curve, it may first be necessary, before attempting to introduce the tube further than that point, to allow some solution to run from the enema-can through the tube, thus bulging the rectal canal in front of the tube-end and permitting its further introduction to the hilt.

The enema-can, which usually holds 2 quarts, is suspended at an elevation but little above the level of the rectum. Unless there is in the case some element which contra-indicates that position for the patient, the latter usually lies supine, the escape-tube conducts the waste water into a receptacle at the side of the bed and which commonly lies on the floor. The soda water enema is allowed to run sometimes for several days and nights, almost continuously, the strength of the solution being 35 Grams of soda bicarbonate to the quart of water. A greater or lesser strength can be used.

Frequently, the flow of the solution through the tube is continued for 3 hours and then discontinued for the same length of time. It should, however, be kept up until not only the gas is removed from the bowel, which condition, we know, favors the development of a fatal ileus, but also until such time as the fever shows signs of great abatement, and runs continuously at much lower levels.

We have used this treatment in a good many cases of pyemic and septicemic infection, and have yet to regret having used it in any case or to learn of any plan of treatment giving greater promise of success, regardless of the severity of the case, or the nature and source of the infections. Pressure within the bowel causing discomfort to the patient and ejection of its contained solution is never a matter over which either interne or physician need worry, as, at just the moment when any pressure threatens to become uncomfortable to the patient, the distention of the bowel-wall is promptly relieved by the escape tube.

The best diet seems to be a glass of milk every hour, although buttermilk or hot broths may be used instead.

Of the drugs which I would depend upon and for which we usually find indications, the most prominently useful are, the salicylate of soda in 5 or 10-grain doses, every 2 or 3 hours; formin, in 5-grain doses every 6 hours with soda and, later in the case, tonics of iron, quinine and strychnine.

I shall be glad to hear from those using this plan regarding their results.

We have in this treatment rather a fact than a theory. Yet, I have theorized that the action of the soda, where absorbed into the blood, is antiseptic as regards the germ life therein, and chemical as regards the acid toxins.

J. A. Dungan.

Greeley, Colo.

A PUZZLING CASE

Can any of your readers throw any light on the following somewhat puzzling case?

On June the 10th, I was called to the confinement of a farmer's wife, aged 33, primipara, always strong and healthy, period of utero-gestation uneventful. Delivery took place at 7:30 p.m., after a perfectly normal labor of five or six hours; without forceps, anesthesia or any form of narcotic. The child, a 7-pound boy, was, to all appearance, absolutely normal, strong and vigorous. The cord was tied with a ligature that had been recently boiled and kept in strong chlorazene solution. The third stage of parturition was properly completed, the mother made comfortable and the babe again looked over, while being washed and dressed. There was nothing to suggest even the suspicion that everything was not just as it should be, and everyone was happy.

As these people lived fifteen miles distant from me, and had a reliable nurse, I did not consider it necessary to pay any more visits, especially as they were in direct telephonic communication with my office, and, I may add parenthetically, my fee was paid before leaving. Instructions were given that the baby was to be put to the breast at intervals of 5 or 6 hours for the first two or three days, and then nursed regularly when lactation became established. Other than this, nothing was to be given the baby, except a little boiled water occasionally.

Next morning, I inquired by telephone how mother and babe were doing, and got a most satisfactory report. On the following day about noon I again inquired, and was told that the baby did not seem quite as well as he had been; the only symptoms they could give me were, that apparently he was weaker

and had occasional spasms of pain or, at any rate, that he cried as if in pain, and he seemed not to want to take the nipple. I was informed also that his bladder and bowels had acted, a copious discharge of meconium having taken place. I suggested giving him some hot water containing a few drops of brandy or peppermint, thinking there might be some gastric flatus from attempts to nurse, and to let me know the result a little later.

Between four and five in the afternoon, I was again called and informed that there had been no improvement, but that he was evidently weaker and appeared to be sinking. I went at once to see him, and he certainly seemed to be acutely ill. There was nothing in the history, from the time I had left him, two days before, to give any clew to the cause of his present condition. His temperature in the groin was 97.5, and neither respiration nor pulse was accelerated; heart action good. His cry at intervals was weak, and was accompanied by the appearance of lines and creases, extending from the alæ nasi to the corners of the mouth. At times, too, there were twitchings of the facial muscles and eyelids; but, in the intervals, the countenance was calm, the face smooth and the eyes closed as if in sleep. I had him completely undressed, and made a most careful examination. There was not a sign of anything wrong from anterior fontanelle to toes, except that the skin of the face showed a faint yellowish tinge over the nose, upper lip and cheeks, suggestive of icterus neonatorum, and there was some tenderness over the liver; at least, light pressure there evoked a cry. The urine stain on the diaper was more yellow than usual.

My tentative diagnosis was some congenital disease of the liver, but, whether merely functional (or perhaps, I should say, temporary), or organic, I could not then decide. I gave, however, a rather unfavorable prognosis.

Before leaving, I administered a dose of castor oil, and had the nurse prepare some barley water, to be given in small quantity at intervals when not asleep.

Next morning, I was informed that death had occurred at 5:30 a.m., fifty-eight hours after birth, quietly, without pain or struggle. During the night, the oil had acted freely, the movement apparently natural.

I gave my opinion on the death certificate that death was due to congenital disease of the liver. Was I justified? Unfortunately, there was no autopsy.

Geo. Acheson.

Kingston, N. B., Canada.

[In the absence of an autopsy report, it is to be feared that a diagnosis of this puzzling case will never be possible, and that one man's guess may be as good as another's. It seems quite evident that there was some trouble in the liver; but, what? Let's see what our readers may have to suggest. The case is sufficiently interesting and potentially important to cause us to put on our thinking caps. What is your diagnosis, Doctor, and why?—Ed.]

TWO UNUSUAL CASES

Many years ago, just before starting on my morning round—I was still engaged in general practice—a couple was shown into my office.

The husband stated, they had called in reply to repeated requests for a settlement of his bill which he did not propose to pay; and, further, if I pressed him for a settlement, he would promptly enter suit against me for malpractice, claiming that the treatment given his wife, prior to the birth of his last baby, was responsible for its frail, delicate condition. They had but little hope of raising it. He admitted that he was acting upon legal advice, following the assurance of his family doctor to the effect that the "wrong treatment of his wife was undoubtedly responsible for the frail state of the infant."

They were a very ignorant couple and, in consequence of this fact, I knew that it was useless to enter into the merits of the case. With a quick step to the door, I opened it and ordered them to get out while there was still a chance to walk. The language used was so convincing that it not only caused much surprise but prompt action, without comment.

From the viewpoint of this wise trio, who knew nothing of the facts, things looked very much their way; but this happened to be a very unusual case. Unfortunately, I have no records to consult; however, the main points are still very clear.

This man's wife first came to me complaining of much pain over the left ovary. Being unable to find the cause, I insisted upon a vaginal examination and found a long rope of thick, offensive pus, about an inch of which was visible. With uterine forceps, this was removed. It was about three inches in length and as large as my forefinger. She expressed prompt relief but still complained of a sense of fullness and discomfort. A soft rubber catheter was then wrapped with gauze, cautiously and gently passed up along the track

which this rope of pus occupied for about eight or ten inches, and withdrawn with a twisting motion. Another plug of pus followed and, immediately, a large quantity of thick pus of foul odor mixed with small blood-clots came away. Gentle pressure on the abdominal wall was used until this discharge ceased, when she expressed herself as absolutely comfortable.

She called weekly for about six weeks, when she complained that the discomfort was returning, though not so severe as before. The gauze-covered catheter was again introduced and withdrawn, and a large quantity of pus passed, but there were no blood clots; the odor was slight.

I admit, it was a very risky thing to attempt, but it was plain that there was room for this thick, tough, long plug of pus to pass down, partially through the os, and that by very cautious manipulation I might be able to dislodge what remained. It was up to me to give this woman relief. I afterwards learned that she never had a return of the trouble.

So much for this case.

—

Mrs. T., who had frequent attacks of dysentery and had been under the care of half a dozen doctors for more than a year, was thoroughly well after a few weeks treatment with intestinal antiseptics and hyoscyamine, while living upon a suitably selected diet.

A few months later, she married. Some months after, I was engaged to attend her in confinement. Labor progressed normally until just before delivery, when the pains became suddenly extremely severe, with great expulsive power. Before the lapse of the usual time for the expulsion of the placenta, it came with tremendous force, along with what for the moment appeared to be gallons of blood. It was then discovered that the uterus had been inverted; but prompt attempt to replace it, failed. She was pulseless, bathed in a heavy perspiration, and too near gone for further effort to replace it. Brandy and coffee improved her immediately.

She left her bedroom in about a month and was soon able to look after housekeeping and her boy, but she could not decide to have the organ removed, for ten or twelve years. The surgeon who did the operation invited me to be present. The uterus was completely inverted.

This woman soon grew quite stout and strong and regretted that she had not acted upon my advice, many years before.

B. D. B.

[It is unfortunate that our correspondent does not give us far more complete information regarding the details of his first case. What did he see on adjusting the speculum? Or did he not use one at all? One might almost believe that he did not make a vaginal examination by inspection, but that he inserted that gauze-covered catheter through the undilated vagina. Of course, there was a severe endometritis. How greatly the left ovary and the tube were involved, we have no means of guessing. We should have employed more active treatment; certainly swabbing out the uterine cavity, possibly curettage. However, as said, we do not have sufficient information on the case to form an opinion.—Ed.]

PERIODIC EXAMS

A cutting from today's (July 6) *New York Times* may interest you as being a fine example of the methods adopted by the many different fake cures and socalled cults in having the audacity to publicly challenge the knowledge and ability of the medical profession for the sake of the free advertising obtained, which has its monetary value by catching those persons who think so little of their health and bodily welfare as to follow any kind of advertisement to its lair.

The trouble with the physicians of today is, not, a want or lack of knowledge or of keeping abreast with the times as far as progress in medicine is concerned, but, lack of aggressiveness in urging and proclaiming their rights as guardians of the health of the people.

In these days, when a new religion or a mental cure for broken limbs can be started on a prosperous career if well advertised and crazy enough to suit the mentality of persons who are either ignorant and should be protected from these commercial enterprises or are of the very common *genus* lamb, *species* sucker, following each other as sheep will do and who really need a watch dog and a shepherd to look after them. These are the easy marks who fall down and worship every new cureall advertisement in the lay press of the "come on and be skinned" variety.

The medical professional today rests upon the sure foundation of scientific truths, but there is no reason why the truth should be hidden under a bushel while ignorant fakes of all kinds prosper by the modern methods of advertising for their customers.

If truth is to prevail, it must be blazed out from the house tops. The medical profession should openly make war upon all unscientific

fakes in the interest of the public health of which they are the logical guardians.

EDWARD SWALLOW.

Mount Vernon, N. Y.

—

The clipping is reproduced below:

What Will Doctors Say to This?

"It is not to a convention of those who practice the art called osteopathy that anybody naturally would look in search of valuable suggestions, but one has been made by a delegate to the convention of such practitioners, now going on in this city, that is at least worth some consideration. It is to the effect that every doctor and surgeon should be subjected, once in five years or so, to an official examination for the purpose of determining whether or not he has kept reasonably well up with the progress of medical science.

"That is a proposal both novel and interesting, and supporting it is the fact that the doctor who does not acquaint himself with the fast-following discoveries of his professional colleagues and of the investigators in the biological laboratories cannot give to his patients the improved treatment which those discoveries make possible.

"That the hard-worked physician in general practice has time to learn all there is in modern medicine, hardly could be claimed; but it can be expected of him that he shall read at least a few of the better journals devoted to his profession, and shall be able to send his patients, in case of need, to specialists of greater powers than himself in their particular domain.

"That an osteopath should be demanding from doctors broad and up-to-date knowledge, is distinctly amusing. The source of a suggestion, however, does not always determine its intrinsic value. Army and navy officers are obliged to take periodic examinations, and failure to pass any of them stops promotion or even results in retirement. Doctors, too, are soldiers in their way—the defenders on whom we depend for protection from the deadliest of enemies—and why should it not be demanded that they maintain competency as well as acquire it in their student days?"

—

[Are osteopaths to be exempt?—ED.]

SOME HINTS ON RECTAL DISEASES

Possibly, there is no class of ailments to which the human body is subject, that is more universal than are the various diseases attacking the lower portion of the alimentary canal. Certainly, there are none that occasion greater discomfort without actually laying the patient up; and, certainly too, there are none which are so often concealed from even the family physician.

This latter fact is due, of course, to the knowledge on the part of the laity that operative procedures in and around the rectum are not universally successful, that much suffering is entailed thereby, that recurrences are seen in a considerable percentage of such cases, and that injuries to the sphincter ani, with a most distressing line of sequelæ, occasionally follow.

Each one of my readers, I am sure, can recall to mind several patients among his own clientele who ought to have something done to relieve them of trouble in the rectal region, but who will not consent to an operation.

It is just such a condition of affairs that first directed my own attention to rectal work, and that led me to make a somewhat exhaustive study of the subject.

At the very outset, I noticed several inconsistencies, or what seemed to me to be inconsistencies. One of these was the fact that, whereas I saw many cases of chronic catarrhal inflammation of the rectum without any attendant troubles, such as pruritus, fissures or hemorrhoids, I never saw a case of any one of the latter conditions without more or less indications of a preexisting chronic inflammation, or a proctitis as it is commonly called. When one considers the etiology of such an inflammatory condition, he easily understands the connection between the two pictures.

What is proctitis, meaning the chronic form of the trouble? It is a catarrhal condition in the lower bowel that is very similar to such a condition in any other portion of the anatomy; the nose, for instance. Now, when we have a chronic catarrhal condition in the nasal passages, what do we find? Congestion and inflammation, first and foremost. Then, later on, unless there be a real atrophy of the mucous membranes, an excessive secretion takes place. But, there is this difference. In the rectum, this secretion may or may not be discharged into the lumen of the bowel. If it is not so discharged, then it may follow down the long axis of the rectum between the mucous membrane and the underlying muscular layers, or it may penetrate through these layers, along the direction of the fibers.

In the one case, we get a constant moisture of a more or less acrid nature about the anus, which may or may not be apparent to the

patient. But, whether he notices it or not, there is a change taking place which occasions much local irritation, due to the constant maceration of the tissues. In the other case, we get, for a long time, possibly, no subjective symptoms at all. He may or he may not have an occasional outbreak which is characterized as "an attack of piles." When he experiences one of these, he goes to his family physician and is given some sort of a suppository (one containing opium, we'll say), and then promptly forgets all about the disturbance. But, the process is going on just the same. It has not stopped just because the transient distress is gone. It is not asleep, by any means.

If there is no discharge into the lumen of the bowel, what then? What is the pathology under those circumstances, and how may it give rise to three so widely dissimilar conditions as pruritus, fissure and hemorrhoids? Just the same pathology that follows similar conditions elsewhere; but with this difference, that these changes are less apparent in this locality owing to the scarcity of sensory nerves in the rectal region. We get the classical symptoms of *rubor, calor et dolor*, redness, heat and pain. But marked lesions may take place before the patient is aware that anything has happened. There is no discharge from the rectum, yet, there may be a leakage or oozing through the skin adjacent to the anus, which the patient always ascribes to perspiration. He will emphatically deny that there is any discharge other than that.

An examination will show in many cases that there are tender areas around and about the rectum; and frequently these areas can be detected by the eye. Again, oftentimes, one may see a faint bluish or purplish line connecting these reservoirs, or pockets. Where these reservoirs are located beneath the mucous-membrane coat within the lower bowel, we get the beginnings of many cases of hemorrhoids. These pockets and canals are filled with the same more or less acrid discharge that we find when it is thrown directly into the lumen of the bowel.

When we examine the anus itself, we find the following typical condition in pruritus; a raw, rugous, moist anus with the radiating folds macerated in their deeper portions; and over all, the marks of the finger nails. Once seen, it is never forgotten.

As to Treatment

Now, what does the average man do for such a condition? I leave it to you to answer. Is it ordinarily successful? Again I'll let you make your own reply. If not, why not? Because no accurate knowledge of the underlying conditions is had.

A line of treatment which does not contemplate the evacuation and obliteration of these pockets and canals has always been considered by thinking men as little more than palliative. This involved a surgical procedure, opening up and thoroughly draining and cleansing the entire cavernous tract. Very recently, however, my attention has been called to the possibilities vested in another line of treatment which is apparently giving me fine results.

I allude to the radiant energy which appertains to sunlight. If we are to believe physicists, all sunlight may be divided into three divisions, so far as it relates to the spectrum; viz.:

7% violet rays, which lie above the violet end of the spectrum and are invisible to the human eye,

13% visible rays, within the spectrum, and

80% infrared rays, down below the red end of the spectrum, which again are invisible to the human eye.

Now, several years ago, Danish and German investigators proved that, other things being equal, the longer the wave length, the greater the penetration. This contention is borne out by the results obtained with the ultraviolet rays, the waves of which are exceedingly short; for, we find but very shallow tissue penetration. On the other hand, such men as Thedering, Gerstenberg, Nagelschmidt, Dodge and Sonne all admit and declare that the infrared rays are deeply penetrating.

Being deeply penetrating, these rays lead all others in regulating the action of the circulation. So, I was first led to try their effects in a case of pruritus ani where there was but a minimum of submucous canalization. And, much to my surprise, I got good results. Then I tried it on another, more typical, case with equally good success. And I have since employed it satisfactorily in about thirty cases. Whether or not this success will continue, I can only surmise. But this I do know, that each patient, on whom it was employed, was loud in the praise of the comfort it gave.

Fissures of the Anus

So much for pruritus. Now a few words about the second condition, fissures. What are they? Many good general practitioners seem to experience difficulty in differentiating between fissures and various other quite dissimilar complaints. This is due, no doubt, to the small attention that is given to diseases of the rectum in our medical colleges, and to the

faulty equipment possessed by the average man for examining these patients.

A fissure is a crack; nothing more nor less. It occurs usually in the posterior wall of the rectum, low down, though it is sometimes seen laterally. It is brought about by the softening and degeneration of the mucous-membrane coat of the bowel by the acrid secretion already spoken of. The exciting cause, of course, is traumatism, either from straining, the passage of a hard, dry stool, or some similar condition. As time goes on, the edges of the fissure naturally become elevated and reddened. The patient complains of excruciating, cutting pains commencing immediately or a few minutes after defecation and lasting oftentimes for hours.

The treatment may be either medical or surgical, palliative or curative. Cauterization with pure phenol will oftentimes cure up these cases, if they have not been of too long standing. Dilatation of the sphincter under anesthesia is always exceedingly helpful, and will often effect a cure when all other expedients fail. The injection into the bowel of a small quantity of sweet oil, fifteen or twenty minutes before going to the toilet will give great relief in many cases by coating over and thus protecting the raw surfaces. Another fact, which is almost universally overlooked in fissure cases, is that a formed stool, if not hard and dried, causes much less pain than a liquid one. The reason is obvious; yet, most practitioners try to liquefy the stool in all such cases.

Hemorrhoids

And, now, for hemorrhoids. These are variously designated as internal and external, inflammatory and non-inflammatory, arterial, capillary and venous, connective-tissue, cutaneous, hypertrophic, thrombotic, redundant and varicose piles. Of these, the venous, thrombotic and connective-tissue varieties constitute the external piles; the rest, the internal ones.

But, whatever the variety, from whatever exciting cause, the remote cause is inflammation. As has been said before, proctitis can generally be shown to have been the forerunner of all these cases. When the mucus, due to the inflammation within the rectum or inside its walls, becomes lodged beneath the mucous membranes just above the internal sphincter, we get little pockets or mucus sacs. These swell and become the foundation for the future pile.

The location of these sacs and their depth below the surface determines the variety of the pile. If but the outer layer of the mucous membrane covers them, we get what is known as the capillary variety. But, if the sac is more deeply placed and two or three layers are superimposed, we have what is known as the arterial pile.

Fresh hemorrhoidal tumors are generally bright-red in color, but the redness fades with age. If there is a varicose condition present, they present a bluish or purplish color, depending upon a greater or less amount of constriction. The color of all varieties of piles is intensified when the tumor is protruded through a tight sphincter ani.

Of external piles, the differentiation is made in the same general way. Cutaneous piles involve the skin and cutaneous tissue, while venous piles are those in which the veins play a large part. Thrombotic tumors are generally merely secondary stages of the venous variety, and are due to the breaking down of these engorged blood vessels with an extravasation of blood into the surrounding tissues.

As to the treatment. This again may be curative or palliative. Under the latter division, where there is no strangulation, the chief indication is the overcoming of constipation and the securing of free, copious, soft stools at least once and better twice a day. To accomplish this, oftentimes requires a great deal of painstaking work on the part of the attending physician. Purgative waters, socalled "salts," aloes, jalap, the various proprietary "pills" together with most of the other cathartics are irritating to the mucous membranes and thus aggravate the conditions they are intended to relieve. Enemas are always taboo, because they tend to force the lining membranes downward. A glycerine suppository is oftentimes beneficial if inserted half an hour before going to the toilet, as it lubricates, and prevents irritation. AbilenA water, though it contains a small amount of the sulphates and bicarbonates of various salts, is permissible, if required. It is best administered in doses of 1/2 to 2/3 wineglass before breakfast. Cascara sagrada is generally valuable, and compound licorice powder is very satisfactory. Albright recommends the following for rectal cases:

Fl. ext. Cascara Sag. aromat..2 fl. oz.
Fl. ext. Hydrastis. Can.....2 fl. oz
Fl. ext. Berberis aquifol.....4 fl. oz.
Glycerine.....q. s. ad 4 fl. oz.
M. Sig. Teaspoonful before retiring, increasing or diminishing as may be required for 1 or 2 easy movements a day.

The condition of the liver and portal circulation should be watched carefully and any-

thing tending to increase the engorgement avoided.

Rich foods as well as all articles containing a large amount of waste material should be avoided. So, too, should stimulants, whether containing alcohol, caffeine, theine or condiments. Bran, contrary to the general idea, is absolutely harmful in many cases. And all coarse foods had better be left alone. Finally, care must be taken not to overeat of even the simplest and plainest foods.

When the hemorrhoids are inflamed or protruding, put the patient to bed and apply ice, either externally or internally, in small, well-rounded pieces or introduced into the rectum enclosed in a rubber condom. But, be careful not to leave the ice, however applied, too long *in situ*. Remove and replace in a few moments if necessary. The cold may be followed by astringent lotions or ointments. Also 3 or 4 ounces (not more) of a cool saline solution may be thrown into the bowel, as required.

If there is a protrusion, or prolapse, reduction can usually be brought about without much trouble by gentle, steady pressure and a small amount of lubrication. Having the patient assume a knee-chest position will expedite matters. A 10-percent solution of cocaine applied to the parts on gauze strips, followed by adrenalin applied in the same way, will often accomplish wonders. When the mass is reduced, put the patient into a bath as hot as can be borne. For after-treatment, hamamelis externally and the specific tincture of collinsonia internally will prove very valuable as a routine prescription.

So much for palliative treatment. In a curative way, the knife, the cautery, the ligature and the electric needle all have their advantages and their disadvantages. When a patient refuses operation, or where an anesthetic is contraindicated, electricity, if used intelligently and with proper technic, will cure a large proportion of the cases. It takes considerably longer, but it is devoid of pain and causes no laying-up from business. It is the means I employ in a large number of my patients; and it gives me as great a percentage of cures as does the classical Whitehead operation. Moreover, the patient suffers no interference with his ordinary occupations of life. The reason why so many men fail in their use of electricity in these cases is because of faulty technic and through routine following of text-book directions. Most if not all works on the subject recommend the positive pole for this purpose and tell of dire results following the negative application. Yet, I use the negative pole in practically all my cases and can absolutely disprove the authorities in this regard. A minimum of current may be used, not to exceed 10 to 12 milliamperes, and no discomfort results.

So far as fistulas are concerned, they still are cases for the surgeon alone and, so, will not be discussed here. A later article, after further experimentation with a method I am employing for the use of light-therapy in these cases, will give the results of these experiments, and may possibly add a valuable instrument to the armamentarium of the general practitioner.

Albert French Storke.

Chicago, Ill.

STRANGE OBSTETRIC CUSTOMS

My 1st Obstetrics in Colombia

One a. m. about 4 o'clock, three women called me to ask assistance for a primipara, who had been in labor so long that all were discouraged. As she was only a block away, I went barefoot and bareheaded.

In the room, was a bedstead of wood. They use scarcely any bedding here and usually sleep on the *ground*, but this room had a board floor. Bedding is usually a mat, like a jap mat and, if any cover, the lightest blanket obtainable; sometimes, a raw cow hide instead of the mat.

Preparations for accouchement: A mat on the floor, with an old dress skirt over the lower end. The woman wore a gown only. I don't suppose any bathing had been done for several days.

I had soap and water to wash my hands. Then, during the next pain, I made a vaginal examination. Head low down L. O. A.; waters unbroken, broke during examination. I thought everything right and gave a dose of Caulophyllin. Had pituitary, but it was like the Jew's promissory note (too old!).

The woman was lying on her back with her head in an old woman's lap, while the midwife squatted between her legs. I told them that, unless things went badly, I'd do nothing but go to school by watching them. So I sat on edge of bed and watched. Another woman, toothless, was waiting-by for the others. The mother was also in the room.

After only three or four good pains, the child came screaming into the world. No attention was paid to the contraction of the uterus. I was watching closely. Then, without any washing of hands, one of the women said, "Well, let us take a drink on the big

boy." Another one produced a bottle and a cup and all but the patient partook of the aguardiente (cane rum). I refused. They brought the patient a cup of chocolate, but a pain came. She got to her knees, and the midwife received the placenta. Then came a ten-minute hunt through the trousseau, for string to tie the cord. Meanwhile, they changed gowns for the patient, removing the old skirt with baby and placenta downward and putting a fresh mat under her.

Then the midwife tied the cord once. There followed a hunt for the shears to cut it. After it was cut, she tied the stump a second time, handed the child to her assistant who wrapped it up, while the midwife cut the customary umbilical patch. During all this time, the only light was a tallow dip candle, out of way at the foot of the bedstead on the floor. When the patch was given to the first assistant, the second brought the candle and, when the cord had been properly placed, the first took the candle and dropped hot melted tallow to cover the cord well, then wrapped it up as is usual.

The midwife rolled placenta, skirt and mat together and No. 2 carried it away.

A cup of hot black coffee was served me. The patient drank her chocolate. Some fruit was brought for me to take home, when I left, having been gone just two hours.

The father did not show up, but, on the fourth day, my landlady asked me for my bill, saying that she would collect it. In a few minutes, she handed me the amount.

A Trying Obstetrical Case

I was spending a week on a cow ranch, some miles from town, where they gave me fresh milk in a big silver mug, four or five times a day.

At daybreak of the sixth day, there came a messenger from town telling me that a woman had been in labor already four days and nights, and would probably be dead by the time I could reach her.

I found a II para, undersized, but in good health previously. Nothing abnormal in first confinement. Midwife and others said that the child was alive. I differed. Gave a full dose of morphine and scopolomine. One hour later, I repeated, ⅛ morphine, and two hours after that, half the first dose. The head became engaged but would not advance with much speed. Finally, I gave another half dose of the first remedy.

After thirteen hours, I began chloroform, giving it myself. Soon, it required a woman at each arm and one for one leg, while the midwife managed the other. The patient had long before abandoned the bell-rope plan and was on her back on the earthen floor, with a single thickness of coffee sack as a mattress.

When the head was born, the stench was almost unbearable and, after birth of the body, there came a great gush and spurt of the most foul smelling fluid imaginable, striking the midwife on both arms. Another woman was leaning near looking at the infant. All four were smoking cigars, but these two immediately turned their heads and vomited. Still, neither left her post, one making a grab for the uterus as I had instructed. Someone passed a bottle of rum and a cup and all took a "horn." Somebody called for egg and charcoal to make the placenta come quickly. A raw egg with one end broken, part of contents being thrown out and replaced with powdered charcoal.

They got the patient to her knees while I watched proceedings. They got most of egg down her, but the effect was unsatisfactory. So, they separated a lock of her hair about as large as a finger and crammed it into her mouth telling her to swallow it. It must have stuck, for no effect was evident. The placenta wouldn't budge. Now, they called for a hen's wing quill to tickle her throat, but she chewed up the quill. They were in despair, and then I came into the game and passed a finger beside the placenta, which fell into my hand. The smell was bad, but someone had brought some live coals and put some cotton rags on them to change it. Probably thirty persons were outside waiting the word she was dead. When I came from the room, I was pushed, crowded and congratulated from all sides.

The priest had come in, after the first five or six hours, to learn about Caesarean section. I told him that it was no use; the child was dead and, with patience, the mother would be delivered.

The baby's skin was considerably macerated, proving that death had occurred some days before.

When I gave antiseptic powder, to use for bathing the vulva, they said, it was their custom to apply a scorched cotton rag, and not to wash until the third day. I told them that this was a rotten case and, to save the woman, they had better do as I told them. They did, and she recovered.

A Third Case

Last week, I was asked to send medicine to *force* the birth of the child in a primipara (18 years), in labor 3 days and nights. I couldn't do it but went to see about it. The trip occu-

pied eight hours, three men poling the canoe for return trip.

I found a strong, healthy woman; vertex presentation, face down, head fast, but not advancing. Hadn't urinated for more than two days. Complained much. Wanted relief of bladder worst of all. I told them that I could not pass a catheter because of the head pressing against the symplupis pubis. I tried, but failed. Having no hyoscine, morphine-eactoid, gave a full dose of morphine and scopolamine at once, after 2 hours, ¾ of the first dose, and 2 hours later ½ dose. Good effect resulted in every way, except in that most desired, advance of the child. Here, instead of the obstetrical harness, they tie a knotted rope to a rafter or joist and, standing or kneeling, pull like an old sailor.

The woman was in great fear of a torn perineum and seemed determined not to let the child pass. I could not get her to lie down, but she would hang to the rope and keep her knees close together, or sit clear back on edge of bed or a box.

I made the trip down at night and was quite tired. After seven or eight hours, I lay down outside her room. In about an hour, her husband came from the room, crying, he said that she had burst herself out behind; the baby was dead and his wife dying. I went into the room and found her hanging to the rope, her knees tight together, and a woman holding her hand tight over the hind parts to keep the intestines from falling out.

Now was the time for me to *force* something. We *forced* her to the ground, on a raw cow hide. Then I used chloroform, but it required one person for each limb (five in all) to manage her till she relaxed, then I went after her. By pressure on the uterus during pains and with the finger in the anus (which had not quite torn through), I reached the chin and, in about 15 minutes, a boy squalled (not a dead one). Now, when the body was completely born, I could not get legs. Feeling nothing wrong but short cord, I gave a half-turn to the body, placing the head on the vulva of mother and went after the legs. There was no trouble now, but I had to lay the child crosswise, while assistants held her legs apart, so that I could tie the cord.

So far neither mother nor child was dead and nothing was torn, either. I thought I'd give plenty of time for the placenta to loosen and come away. So, I went out to wash my hands. Now came the funny part.

When I returned and the pains came again, she rose to her knees and grabbed the bell rope again. I found only a couple of inches of cord protruding, but a strong hemp cord was tied to it, and I had taken time to tie only once before cutting. The placenta came away readily and clean. She lay down and said, "Loosen my foot, somebody." I followed that hempen string backwards and found it attached to her foot. It had been put there during my absence from the room. What for? Custom.

Then some one said, "Now the urine?" The husband took a small gourd vessel and stepped out and urinated into the gourd (I didn't see how much) and offered it to his wife. One of the women said, Drink it and get well quickly. Before I could think of anything to say, it was gone. (Can you beat that?)

There was no way for me to return for two days; but, when I left everything seemed in good order.

Geo. Mott

Calamar, Del Napes, Colombia, S. A.

CANCER
Cause and Treatment

Cancer is a cell formation, made up by blood corpuscles that have been arrested and have not functioned for six months or longer. When arrested for a short time, blood corpuscles will degenerate into pus and, when arrested for a long time, they degenerate into cancer cells.

If a splinter of wood penetrates the tissues of the body, and remains, the corpuscles of the blood will be arrested there, and, in a short time, will degenerate into pus. The splinter is removed and the sore heals.

A man in the cancer age, past forty, smoking a clay pipe irritates his lip. This irritation arrests the corpuscles of the blood, producing a congestion noticeable by a redness and slight swelling; occasionally discharges a little pus. This is a benign sore. However, he continues irritating the part with the stem of his pipe for six months or longer, and then the congestion changes into a lump, which is slightly sensitive on pressure.

The corpuscles of the blood, having been arrested, not having functioned for a long time, have degenerated into malignant cells. The sore is now a malignant one.

It is impossible for any physician to tell the exact time when a benign sore becomes a malignant sore. It may be compared to day merging into night. No person can tell the exact time when day ends and night begins;

for, there is a twilight.

This cancer is now local, and, if every cell is removed by operation, either medicinal or surgical, there will be a radical and permanent cure. If not removed, the trouble may at any time become more than local. By manipulation or pressure exerted on the cancerous mass, some of the cancer cells will be forced into the blood current and will circulate in the blood until they are arrested somewhere in the system where the circulation is slow, as is the case in a lymphatic gland or in a cicatrix.

If the cancer is removed by operation, the wound will heal and form a cicatrix. In time, there will be swelling and soreness in the cicatrix and, upon examination, a cancer will be discovered forming in the cicatrix. The malignant cells, floating in the blood current, were arrested in the cicatrix, and corpuscles of the blood, arrested and coming in contact with these cells, will degenerate into cancer cells in a short time.

The growth or multiplication of malignant cells continues until the malignant growth becomes so large that the central part is without any circulation, through pressure. Then the cancer cells degenerate into a sanguineous pus which escapes from the growth. As the growth enlarges, the flow of pus becomes more profuse, and this gradually drains the blood of its corpuscles which are the life-giving power of the system.

The growth is now large, involving surrounding tissue and near-by lymphatic glands. It has gone wild in diverting blood corpuscles into cancer cells, and, in due time, the person dies a frightful death from exhaustion.

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What I have said of cancer of the lip, will apply to cancer in other parts of the system.

A person in the cancer age has an ulcer in the stomach which continues for some months. The corpuscles of the blood, having been arrested for a long time in the congestion which the ulcer caused, have degenerated into malignant cells. They form a tumor in the wall of the stomach which may be recognized by palpation. If the malignant cells are not removed, the process of the growth will gradually sap the strength of the person, causing death by exhaustion.

A woman's mammary gland, in her cancer age, comes in contact with the hard stays in her corset, producing a slight contusion which results in a small lump. The lump persists for some months. Blood corpuscles are arrested in the congestion and do not function for a long time. They degenerate into malignant cells and the benign tumor is now a malignant growth. If not restored by a surgical or medicinal operation, she will have a dreary and painful period of life of two years or less, when merciful death will relieve her.

It is easily recognized, in cancer of the breast, that cancer cells become detached from the main mass and float in the blood current. In a short time after the cancer is developed in the breast, the lymph glands of the axilla become involved, and ulcerate.

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There are very few persons afflicted with cancer before they reach the zenith of life, for the reason that the heart beat is strong and the circulation very active. On this account, the blood corpuscles are seldom arrested long enough to degenerate into malignant cells.

Nearly all cases of cancer occur in persons after they pass the zenith of life, for the reason that, in many such persons, the heart beat is weak and the circulation so inactive that the blood corpuscles are easily retained in a congested area produced by some irritation or contusion long enough to degenerate into cancer cells.

Cancer is not contagious or infectious. The "juice" of cancer is not inoculable or communicable by immediate contact. There is not upon record a solitary instance, from the earliest periods down to the present time, in which cancer was imparted in this manner.

What I have said about the cause and nature of cancer, plainly indicates that early operation, if thorough, either medicinal or surgical, will affect a permanent cure.

Technic of Medicinal Operation

When a person comes to my office to be operated upon, I make a 10-percent solution of cocaine, saturate absorbent cotton and apply it to the growth. I give the cocaine twenty minutes' time to produce anesthesia of the parts. During this time, I expose zinc chloride to the air until it liquifies, or partially so. Then I add an equal part of chlorate of potassium. I select two pine probes, the size of a match stick. One I cotton on the end, moistening the cotton with water; I dip it in the crystals of cocaine and apply to the parts with pressure to assure complete anesthesia of the part to be operated upon. If the growth is hard and nodular, I press as much of the cancer "juice" as possible out of the growth. This will facilitate the penetration of the medicine.

Then I dip probe No. 2 in nitric acid and moisten well the skin surrounding the growth,

¼ inch in width. I then dip the cottoned end of probe in the mixture of zinc and potassium and apply to the parts with pressure so as to make it penetrate as deep as possible. Then I dip the cottoned end in the solution again and use the probe at right angles with the parts to be operated upon, making firm pressure, giving the probe a boring motion, until I find the tissue necrosed to a certain depth. I remove the necrosed tissue with a knife or curette. In scirrhous cancer, I use chloride of zinc without the chlorate of potassium.

In hard cancers, I sharpen the end of the probe so that it will penetrate the tissue more rapidly. The zinc and potassium I use freely and, sometimes, I use nitric acid in full strength on parts that resist the escharotic action of the zinc potassium mixture. For after treatment, I order a flaxseed poultice applied until the remaining necrosed tissue comes away; vaseline if located where poulticing is not convenient. I then order absorbent cotton applied, moistened with a saturated solution of potassium chlorate and kept wet until almost healed. Then an ointment composed of equal parts of nitrate of mercury ointment and potassium chlorate until fully healed; and applied to the cicatrix once a week for two months longer.

If the patient suffers from the operation, it is due to insufficient cocaine used. I presume that some physicians would prefer novocaine to produce anesthesia of the parts. I have not noticed any systemic effects from cocaine used as described.

The operator should be sure to destroy the bottom cell; for, upon this depends the success of the operation. If he has not the courage to do this, he had better not operate. An incomplete operation will hurry his patient to the grave.

If there is any doubt of the operation being radical, it would be well to have the patient return, after the necrosed tissue is removed, for inspection. If you find any suspicious looking tissue in any part of the sore, destroy it. If you leave a single cell, there will be a recurrence.

A physician will soon become expert in the operation and will be able to destroy a fair-sized epithelioma in two hours, including the time to produce anesthesia. Patients come to my office on one train and leave on the next minus their cancer.

This operation will also cure lupus and rodent ulcer.

Internal cancers should be removed by the knife as soon as discovered; external cancers likewise, where a medicinal operation is not expedient.

In cancer of the uterus, the entire organ should be removed with the knife. In cancer of the mammary gland, the entire gland should be removed with the knife and, if the operation is performed early, before any cancer cells get in the circulation by pressure on the cancer mass, there will be a radical cure.

Women in the cancer age should be taught through the lay press that, when they discover a lump in their breast, no matter how small, they should go to a physician and be treated. A "lump" in a woman's breast in the cancer age is almost a certain warning symptom of cancer.

The reason why there are so many cases of cancer of the uterus and mammary gland of women in the cancer age is, that the menopause ends the functional period of these two organs and they have, therefore, a very weak circulation. The least irritation or contusion will arrest the blood corpuscles and these will in time degenerate into cancer cells.

A weak circulation is primarily the cause of cancer and, therefore, cancer cannot develop in a person with a normal circulation. Many people have a weak, abnormal circulation after they pass the meridian of life. This is plainly indicated when we know that cancer destroyed 93,000 people in the United States in 1922.

Medicine should be prescribed to be taken internally that will stimulate the circulation and bring it to normal if possible. I prefer iron, arsenic, and strychnine.

If the bowels are constipated, laxatives should be used and the patient should be a vegetarian as near as possible, and drink enough water daily to keep the urine clear in color.

A salt-water bath followed by a good rub-down twice a week at bedtime will very materially aid in bringing the circulation up to normal.

A physician that will take the advice given in the foregoing will have a higher percentage of cures than he will in typhoid fever or pneumonia.

J. E. Tibbins.

Beech Creek, Pa.

[We are occasionally asked for remedies that may be applied locally to epitheliomas or other accessible malignant growths. Here is one that has given our correspondent good results. We have never used it and can not judge from personal experience.

Doctor Tibbins views cancer as the result of long-continued irritation. That, we apprehend, is not the fundamental cause but rather a contributory one. The underlying cause, it is now claimed, is systemic and not localized. If we understand the newer teachings correctly, a person may be subjected to repeated and long continued irritation and not develop cancer, even though he be in the cancer age—providing that there is no carcinosis present, that his metabolism is entirely normal and no irregularity in the physical processes takes place. The whole cancer chapter still is very confused. But, undoubtedly, people in the "cancer age" should beware of continued local irritations, especially if their body chemistry is not quite normal.—Ed.].

SOME MISTAKES AND NEAR-MISTAKES

Twenty odd years ago, when I was fresh from school and a roust-about army "surgeon" in the Philippines, a light-haired, fine-haired, skinny built soldier was admitted to my hospital of which I constituted both, the staff and chief of staff. This boy had a light fever following a rigor. Malaria was my guess. Malaria was easy to guess, for it was prevalent and common. But, quinine failed to confirm the diagnosis. In spite of it, the boy would have, some days, two or three chills with as many exacerbations of the fever.

Fever was a constant symptom and ranged from ½ to 1 degree Fahrenheit, except for a few hours after the chills when it moved up a degree or two. Sometimes, there would be an interval of two or three days between chills. Constipation and flatulence were the rule. Tests for typhoid fever proved negative, and I was a derelict on the sea of inexperience until the end of about the second month, when autopsy revealed a chronic peritonitis. Then I set out to learn something about chronic peritonitis, and thereafter, for a long time, I palpated every abdomen that presented, not in a hunt for peritonitis, but in an effort to learn what a normal abdomen feels like. This experience has served me well.

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Several years ago, I was called to see a case of typhoid fever, the case of a neighboring physician who was absent on account of illness. Found the patient, a woman of twenty-five, greatly emaciated and well nigh exhausted from a six weeks' siege. There were numerous metastatic abscesses in various parts of the skin. In the left hypogastrium, was a fluctuating tumor mass, as large as a baby's head, and a peritoneal abscess was the guess. A consultant was called. The surface abscesses were drained, but it was decided to make an exploration with the aspirator before opening the peritoneal abscess. This was done, but the job was completed with a catheter and three quarts of urine drawn, notwithstanding the fact that we were informed that the kidneys were acting freely.

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A few years ago, I was called three stations away to "lance a rising" on the chest. I had twenty-four minutes to catch the next train back. The patient, a man about thirty-five, was in bed on his back complaining of excruciating pain in the region of the abscess which was located over the second rib and adjacent interspaces to the left of sternum. The skin over the abscess site was considerably elevated and purplish in color, and at a glance looked as though there might have been a teacupful of bloody pus just ready to break through. Without ceremony, I prepared to operate, for time was limited. The knife was prepared and cotton packed around to catch the pus. Conveniently stationing myself, knife in hand ready for the stroke, I proceeded to palpate in order to find the best place. But, of a sudden, I changed my mind and did not operate; for, I had an aneurysm to deal with, one that had eroded (completely resected) about one and a half inches of the rib.

Energetic antiluetic treatment soon got this fellow comfortable, and he died of "flu" nearly two years later, and with a still larger aneurysm.

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Through mistake, I once took an overdose of cannabis indica. Within half an hour, ideation became noticeably stimulated, and this progressed rapidly. In talking, I would apparently go to sleep between words. These "naps", which were but periods of forgetfulness, were short in the beginning, apparently of but a few moments' duration, and on arousing I could remember the "last word said". As the intoxication progressed, these periods became longer and longer in duration (apparently) and, finally, they seemed fully ten minutes long, and I would often forget the last word said. Yet, all this time, what I set out to say was clear in my mind, and it was only by a process of reasoning, by the assumption that it had been said, and by ignoring results of mistake, that I got anywhere with my talking. Guess I was not incoherent with it, for no one seemed to observe that anything was wrong. I caught myself feeling the pulse, and chided myself

for cowardice, but quick as a flash the thought came that it was not on account of cowardice but for scientific purposes.

At the end of about one hour, delusions began to appear. About this time, I had a long call and started. I was riding a spirited horse. All at once, I appeared to be in a cage about similar to that in which lions are kept, and this cage was in rapid vibration. Here I decided to dismount, and did. No sooner did I strike the ground than the delusion was over, but it returned as soon as I was mounted and in motion again. This time I ignored it and it soon passed away to be succeeded by another, which was a huge Dutch wind mill set horizontally. My body was the axis and round me the great arms of the wind mill moved rapidly. Many delusions thus succeeded each other, the last one being about eleven p. m. and some ten hours after the dose was taken. This delusion occurred while on my way from the barn to the house. A nearby church bell began to ring and I wondered what it meant at that time of night. I stopped to listen and th bell stopped ringing. Then I realized that it was a delusion. When I started to walk again, the bell began ringing again. I made several stops on the way to the house with the same result.

A very interesting delusion and one that lasted throughout the intoxication, or rather until sleep overtook me, was that of a small spot of phosphorescent hue which would appear at the base of the brain in the beginning of each new thought, and spread out fan-shape over the entire brain, something like a flash of distant lightning.

Of the many delusions, of which those mentioned are but a few examples, only one, beside the phosphorescent flashes, repeated itself. Rather early in the journey mentioned, it occurred to me that I had forgotten my saddle bags. This was repeated many times on the way to see the patient and each time it was a source of rather painful distress. Although this happened more than fifteen years ago, the delusion occasionally reappears now, and always at times when my entire attention is needed at the wheel, and it is not dispelled until I actually see the medicine case. These delusions are but momentary in duration, but are full of distress, and my mind is absolutely blank to all else during the time.

There was some nausea and vomiting within the first few hours, and some gastric disturbance, perverted appetite and a mild general malaise persisted for several days.

There is no other incident in my life where-of details are so impressed on my memory as this one of hasheesh intoxication.

A. Graves.

Russellville, Ala.

ECONOMIC PROBLEMS

I've read No. 1 of Vol. 30 with a deal of interest and found something worth while in every article. Last night, after the teaching staff had gone to bed and as I sat alone with a smoke halo bothering my vision frequently, I went through the magazine from "kiver to kiver."

I found amusement in "The Average Annual Income." That is, in your comparisons and findings. I know, as you do, that the worth-while practitioner of medicine doesn't get his worth. There are a few, comparatively speaking, in populated centers who fare well. Others, quite as well qualified perhaps, dangle on the ragged edge continually. It comes through conditions, Doctor. It is not always from lack of "pep," from little or no initiative or from an undersized ability. An oligarchy is little interested in the masses except in so far as production keeps up with its (the governing few) schedules. What the most of us get is by fighting for, as well as working for. Continually there is a conflict, 50-50, with our labors.

It is not the proper method of getting along by a long shot and, eventually, discontent will become rebellion, as many times witnessed in the past, and a better way of doing things and a saner system will be inaugurated. Those who produce nothing will get nothing. Whether ministers of the gospel are producers or not, we'll not consider now. Personally, I consider them pretty well intrenched in the parasite class. [We cannot agree with that. —Ed.]

On an average, the producer—the maker of things (and this includes the doctors of medicine, the teachers and the intellectuals who endeavor to better our brains and our bodies, who strive to make clearer our every-day path and widen our vision)—get but a scant fourth of what they produce. This comes from real government statistics, and not from socialistic propaganda nor the lurid doctrines (so called) of the red internationale. You remark that it is considered both politic and diplomatic to coddle labor unions and to appease them in every possible way. How come, Doctor? For a full two years now, banking on a program nursed and made to toddle on rather shaky limbs directly after the war, the Associated

Industries has worked long of hours, day in and day out, in its 100 percent American Plan of open shop, union busting and hamstringing of labor. And I shall have to admit that, in a general way and quite thoroughly, the plunderbund was successful. In my own "union," the Marine Engineers' Association, we were bent down to all but a miserable defeat in every line of welfare we had taken up and considered long settled.

Your fling (?) at your plasterers, carpenters, steamfitters and bricklayers doesn't well fit. Were those tradesmen you speak of continually employed, their scales of wages, per day, would be about in keeping with those of other skilled workers. You will note, if you care to dig statistically, that your steamfitters, bricklayers and so on bank scarcely more than the steadily employed ditch digger. And the ditch digger, by the way, is more essential to our modern town than a bunch of lawyers—or even preachers.

I see that Dr. A. Milton Cox is out with a sharp javelin after chiropractors. I hope he gets 'em—hide and "taller." He also brings up the possibilities of good, in a quiet way, of organization patterned "to some extent after well known organizations in the industrial field" as material help in the increasing conflict with the dubbers and rubbers. And, why not, may I ask? Aren't doctors industrialists? Or are they a side issue of aristocratic lance bearers and drug dispensers? The producers are a mite wiser than they were. They don't go much on this god stuff, nor do they bank a picayune-sou on divine rights of those who may be, for the moment, treading on an upper crust. Is a doctor's diploma of more value to him than my chief engineer's license is to me? In organization, there is more power to do good than there is in individual effort. Surely; organize by all means.

For the life of me, I can't see why professional men think themselves so dizzily aloof from the socalled common herd. They work with them and for them and for compensation. We, all of us, have very steep hills to climb, and I think we can reach the peak more easily and with greater satisfaction by hand-in-hand pulling together than by widespread and separate upgrade drudgery.

WILL A. BARROWS.

Kake, Alaska.

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[Our very good friend, Barrows, does not hesitate to speak out in meeting. Where he objects to our criticism of wages for workers in the building trades, we admit that our remarks may have been specially blunt. You see, we had just been bled aplenty, in our own pocketbook, the place that is very vulnerable.

No doubt, the prevailing system of remuneration for work done is all wrong. Here, again, it is an instance of unequal or, at least, inequitable distribution of the returns, of earnings, of labor. How greatly physicians are affected by this prevailing state of affairs, we realize only too well. Yet, how can matters be improved? Do we have to pass through a revolution? Or is a friendly and peaceable adjustment possible? We wonder.—ED.]

NOTICE OF CHANGE OF NAME

The Strophanthin used in the preparation of Strophanthin Solution 1:1000 "B. & S." is the amorphous, non-nitrogenous glucoside obtained from the seed of the Strophanthus Kombe Oliver. To prevent possible confusion with preparations made from the crystalline Strophanthus Gratus, Strophanthin Solution 1:1000 "B. & S." will hereafter be known under the shorter and more distinctive name "Kombein" (pronounced Kom-hay-in). This change is made in the interest of prescriber, dispenser and patient alike. Kombein is supplied only as 1 Cc. ampuls in boxes of 6 and 12 ampuls each.

HOSPITAL FOR CRIPPLED CHILDREN

A tract of land in Minneapolis on the banks of the Mississippi river (valued at $100,000) and an endowment fund of $900,000 have been given to the University of Minnesota for the construction and endowment of a hospital and convalescent home for crippled children. This is the second considerable gift made this year to the school of medicine at the University of Minnesota, $250,000 having been received for a cancer institute.

The gift for a children's hospital comes from William Henry Eustis, a former mayor of Minneapolis, himself a cripple from youth. One month before making the gift to the University of Minnesota, Mr. Eustis presented 21 acres of land to the city of Minneapolis as a site for the Dowling school for crippled children which the Minneapolis board of education is to build. The land given to the university is a tract of 44 acres.

The Minnesota board of regents has decided to erect the hospital for children on the campus of the school of medicine, retain-

ing the riverside tract as a site for the convalescent home. Fifty beds is the contemplated hospital capacity, while the home will be built to accommodate about five times that number, due to the greater length of time the convalescents will require attention.

Free care is provided by the gift for all crippled children who can not afford to pay. In case there are surplus beds, however, the University of Minnesota is permitted to accept patients whose parents, guardians or friends can pay the cost of their treatment.

Due to the fortunate juxtaposition of the convalescent home and the school maintained by the board of education, inmates of the home will be provided excellent opportunity to continue their educations, even though they are far removed from their homes. The institution will be called "Minnesota Hospital and Home for Crippled Children."

PROFESSOR PIRQUET GOES TO MINNESOTA

University of Minnesota, June.—Dr. Clemens Pirquet, professor of pediatrics at the University of Vienna, and director there of the Children's Hospital, has been appointed professor of pediatrics at the University of Minnesota. It will be his third term of service in the United States, as he was professor and chief of pediatrics at the Johns Hopkins Medical School in 1909-1911, and (in 1921) came to America to deliver a series of lectures. Dr. Pirquet is thought of as probably the leading pediatrist of the world.

Pirquet first came into prominence as an investigator in 1905, when he published a monograph with Dr. Schick on the nature of serum sickness. Two years later (1907), he developed the Pirquet test which is so extensively used in the diagnosis of tuberculosis in children. Pirquet's earlier interest in medicine was in the infectious diseases of children, he having published numerous articles dealing with various phases of the acute infectious diseases.

From 1914 to the present time, his work has been chiefly with the problem of nutrition and nutritive disorders. In this connection, he has carried on extensive studies on growth and physical constitution of children and in the development of a precise system of nutritition known as the Nem system. These studies have included a complete review of various devices of nutrition and of growth, with the use of newer statistical and graph methods.

Since the war, conditions have led him into the care and treatment of tuberculosis in children. He has at the present time a large service in Vienna devoted to the treatment of tuberculous children. Professor Pirquet is 49 years of age.

DIPHTHERIA IN CITY AND COUNTRY

In New England, at least, the susceptibility to diphtheria is higher among persons living in sparsely settled or rural regions than it is among those living in cities; and it is much higher among the well-to-do than among the poor, and among the native born than among the foreign born. Such are the conclusions reached by Dr. C. W. Kidder, of the U. S. Public Health Service, after an investigation, recently completed, in the Eighth Sanitary District of Vermont, which has a population of 35,000.

The Schick test was administered to a little more than 2,000 teachers and school children whose parents requested it. Of these about 1,500 were found to be susceptible to the disease; and their immunization with toxin-antitoxin was at once begun.

The Schick test is made by injecting a tiny amount of diluted diphtheria toxin beneath the outer skin layer of the forearm. If the person is immune to diphtheria, that is to say, if his blood contains substances that neutralize the toxin that is injected, nothing results. But, if his blood does not contain such substances, a small rosy spot soon appears at the point of injection and persists for a few days. It causes little or no discomfort.

The value of the Schick test lies in its pointing out those who are susceptible to the disease and in thus enabling them to be immunized by toxin-antitoxin before an epidemic breaks out. It also enables those who are not susceptible (estimated as being from 20 to 30 percent of children and 35 to 50 percent of adults) to save the expense of immunization either before or during an epidemic. This is the second great step in the fight against diphtheria, the first being the introduction of diphtheria antitoxin, which came into general use about the beginning of the century and which caused the diphtheria death rate to drop from 43.3 per hundred thousand of the population in 1900 to 15.3 per hundred thousand in 1920, the latest year for which figures are available.

Notwithstanding the distances to be covered and the relatively high cost and difficulties of

such work in rural districts, the value of the Schick test and of the toxin-antitoxin immunization, adds the Public Health Service, is so great that it should be included at all appropriate times in the programs of health departments. Particularly should this be done in rural regions, where the degree of susceptibility to the disease is greatest and where facilities for prompt and adequate treatment are most frequently lacking.

THE DOCTOR'S PLIGHT

'Twas midnight, but the Doctor's light
Still shone.
He'd figgered o'er his books till sight
Was gone.
For thirty years he'd worked by day
And night.
Been taught and always tho't that way
Was right.
But, now, his figgers'd raised a doubt
For him.
'Twas clear from them, he'd got about
All in.
He'd bills galore unpaid before
His face.
Of cash to pay, there was no more
A trace.
Accounts due him for fifteen years
Or more,
He'd dunned them till their very ears
Were sore.
It did no good, it seemed, to dun,
He tho't;
It never seemed to bring the mun,
Nor aught
Except excuses; man's common coin,
From all:
"There was a note the bank was goin'
"To call;
"Their sickness'd cost a thousand bucks,"
They said.
"They'd bo't a car or else some trucks";
(Unpaid).
"The times were hard; the banks were
broke," or bent.
'Twas true, they'd never had in soak
A cent.
The Doctor tho't these matters o'er and
O'er, that night.
He saw that they had drawn his fetters
More than tight.
Collect or bust must be my rule
Just now.
For, if I don't, I am a fool
I know.
They'll cuss me some I have no doubt
At all;
But I'll get a car and go the route
This Fall.

—

Just then a charity call came in . . .
The bell!
He hesitated; was lost; gave in;
Oh, H . . . !
A year passed by. The Doctor's light
Still shone.
He'd figgered o'er his books till sight
Was gone.
He'd bills galore unpaid before
His face.
Of cash to pay, there was no more
A trace!

E. I. Raymond.

Wellington, Colo.

[*Concluded from page 586*]

invaded by primitive protoplasm (the sarcoplasm).

The Normal Span of Life

What is the normal duration of time consumed in the final culmination of the triumph of the primitive over the specialized element? Buffon claimed that the normal duration was six to seven times that of the period of growth, but he erroneously maintained that fourteen was the age at which growth terminated. Flourens fixed the age at which the process of growth comes to an end at twenty, at which the bones have ceased their growth. Thus the span of normal life is from 120 to 140 years.

We may now arrive at a definition of physiologic death from the viewpoint of the struggle between the conjunctive and specialized elements in the body of the organism: Physiologic death is the final culmination of the triumph (unstimulated in their progress by any cause whatsoever) of the conjunctive cells over the specialized cells, bringing about, by their unstimulated degenerative invasion of the vital organs, a complete disturbance of the harmonious activity existing among them. Any deviation from this at once falls into the province of pathologic death.

Physiologic Death

From the viewpoint of biochemistry, ageing, which finally culminates in natural death, is a process of deaquification by aggregation. This is a process which takes place in the ageing of all organic colloids, and is claimed to be the one which changes the organism from its embryo stage to senility and which finally ends in death. In the human species, this process extrudes the H_2O and defines the progress of life from birth to natural death. Old age, expressed in terms of the biochemistry of senile degenerescence, is a certain stage in the deaquification of the protoplasm of the tissues This process of deaquification, it has been suggested, may be represented by the equations:

$Pm(OH\,H)n + Pm(OH\,H)n = 2Pm(OH\,H)n + nH_2O$.

$2Pm(OH\,H)n + 2Pm(OH\,H)n = 4Pm(OH\,H)n + nH_2O$.

[$Pm(OH\,H)n$ stands for the collodial protoplasm of human tissues, and Pm stands for protoplasm.]

What Others are Doing

INTESTINAL AUTOINTOXICATION AND THE ACIDOPHILUS BACILLUS

When the Bulgaric bacillus was introduced as a "friendly germ," it was hailed as a harbinger of the fountain of youth, and it was assumed rashly by unreasoning optimists that it would now be a very simple thing to overcome and also to prevent the evil consequences of intestinal autointoxication. It is a matter of regret that expectations were disappointed to a degree and, while the Bulgaric bacillus has a definite place in therapeutics, that place is not nearly as important as had been hoped.

The task is, to find something that will counteract the exuberance in the intestinal canal of the colon bacillus and that will prevent the toxemia to which it gives rise, as has been demonstrated definitely. Aside from means frequently employed, such as antiseptic substances that can be introduced by mouth and exert their inhibiting action upon the bacillus coli in the intestine, it has always seemed desirable to find a "friendly germ" that would definitely curtail the growth of the colon bacillus and that would interfere with its toxin production.

Quite recently (*Jour. A. M. A.*, Jan. 13, '23, p. 92), L. M. Gompertz and M. G. Vorhaus reported upon their bacteriological and clinical experiences with the bacillus acidophilus. Their aim had been, to implant this bacillus in the intestine, maintaining it there as the predominant organism and then to determine what changes, if any, were noted clinically. If the intestinal flora could be so changed, they reasoned, that the colon bacilli could be kept at a minimum with a lessening of their toxic products, a great deal would be accomplished toward combating the results of autointoxication.

In the course of their investigations, the authors determined indisputably that the B. Acidophilus can be successfully implanted in the human intestine and that this can be done to such a degree as to maintain this bacillus as the predominant one in the intestine. The authors say:

"Its effect in changing the intestinal contents is noted in two ways: In the constipation group, the feces become comparatively odorless, while, in the diarrheas, there is a gradual formation of the fecal material until a soft, light and partially formed stool results. The second effect is the relief from the toxic symptoms that previously existed. This bears a definite and constant relationship to the change in the fecal flora. Furthermore, the accumulated evidence and clinical belief that the products of intestinal putrefaction are harmful give additional importance to these results. As a consequence of more than two years' work, we believe that B. Acidophilus minimizes intestinal autointoxication and is indicated in the socalled toxic intestinal conditions."

The authors warn against unjustified enthusiasm and against repeating the history of the Bulgaric bacillus, substituting for it merely the Bacillus Acidophilus. The range of usefulness of the latter, they believe, seems clearly defined and it consists in overcoming and preventing intestinal toxicity by predominating over the colon bacillus which latter is responsible for intestinal toxic manifestations.

However, there are definite indications for future work with B. acidophilus. Its effect on typhoid, paratyphoid and the dysentery group deserves careful consideration. Theoretically, B. acidophilus may be employed as a prophylactic agent. A colon-bacillus infection of the gall-bladder and its ducts or of the pancreas finds us usually without any means of proper treatment. By regular courses of B. acidophilus, we have a means that offers some hope in the prevention of an ascending infection by B. coli. It certainly deserves consideration because of its harmlessness and ease of administration.

BOTULISM EPIDEMICS

A recent bulletin of the U. S. Public Health Service refers to ninety-one single or group outbreaks of botulism having occurred in the United States and Canada. A total of 345 persons have been affected, of whom 213 have died, giving a case mortality of 61.7 percent.

Of the 91 outbreaks only 30 have been

proved bacteriologically or toxicologically to be due to botulism, the others being so adjudged from the symptoms. About two-thirds of the outbreaks (25 proved and 38 not proved to be botulism) were caused by plant food, and about one-third (5 proved and 14 not proved) were caused by animal food.

The following products have been proved or assigned as the particular food in which the germ causing this disease developed in the cases investigated: String beans, home canned, 17; commercially canned, 3; corn, home canned, 9; commercially canned, 1; asparagus, home canned, 5; apricots, home canned, 3; pears, home canned, 2; spinach, home canned, 2; commercially canned, 6; beets, home canned, 1; commercially packed, 2; liquor, home brewed, from old home-canned products, 1; cottage cheese, home prepared, 2; pickled mackerel and herring, home preserved, 1; ham, home cured, 2; commercially cured, 1; sausage, home prepared, 1; commercially prepared, 2; salt pork, home cured, and beef products, home prepared, 3; minced olive relish, commercially canned, 3; ripe olives, commercially pickled and bottled, 7; pork and beans, commercially canned, 1; tomato catsup, commercially bottled, 1; clam juice, commercially bottled, 2; tuna fish, commercially canned, 1; evaporated milk, commercially canned, 1; and minced chicken, commercially prepared, 1.

Spoilage, due to botulism germs, adds the Public Health Service, cannot always be determined by the appearance or odor of the food.

BOVINE TUBERCULOSIS IN A CHILD

The press service of the U. S. Department of Agriculture relates a case history of tuberculosis in a child which was traced definitely to bovine tuberculosis by Dr. E. C. Schroeder.

During the latter part of October, 1922, a tuberculin test was applied to a herd of 12 dairy cows. The test was made at the owner's request under the plan conducted by the state and Federal officials working cooperatively. As a result of the test, 11 of the 12 cows were classed as reactors and, upon autopsy, all revealed lesions of tuberculosis, two being advanced cases.

The veterinarian who made the test was informed by the owner that his eight-month-old baby girl had recently developed a swelling in her throat which was being treated by their family physician. The child had been fed on the milk of the infected herd for about seven months, and the physician believed that the enlargement in her throat was tuberculosis of bovine origin. The attending physician soon afterward decided that an operation to remove the diseased tissue was needed. As a result of the operation, the child is recovering.

A part of the diseased tissue was found to contain bacteria which were proved beyond question to be tubercle bacilli of the bovine type.

The case described is particularly interesting, not because tuberculosis is of rare occurrence among children, but because the disease in this instance was traced to the very cows from which the infection emanated.

Conservatively estimated, bovine tubercle bacilli, or the type with which the milk obtained from tuberculosis dairy herds is apt to be contaminated, are responsible for about 10 percent of the deaths due to tuberculosis among children under five years of age, and for many cases of tuberculosis which do not end fatally but often leave their victims permanently scarred or crippled.

REMOVING ADHESIVE PLASTER

The Journal A. M. A. (July 7, p. 27) contains a brief article, contributed by Dr. Harper F. Zoller, to the effect that medicated tape or adhesive bandage can readily and painlessly be removed from the patient by moistening the bandage with a little pure ethyl acetate held in absorbent cotton, by sopping lightly over the entire surface of the bandage or tape. In a few seconds, the adhesive surface is killed and the bandage can be pulled free from the skin or hairy surface without the least "pull" to the patient. The ethyl acetate possesses a rather penetrating odor, but, because of its high vapor pressure, it evaporates entirely in a few minutes, leaving neither odor nor ill effect. Dr. Zoller says:

When the adhesive tape or bandage covers areas or surface which may become infected, a few drops of tincture of iodine or a few crystals of pure iodine may be added to the ethyl acetate (the latter is an excellent solvent for iodine) for purposes of disinfection. The solution may then be used as before for the removal of the bandage.

Removing Adhesive Spots.—It is frequently necessary to remove from a skin surface the grimy portions of adhesive left from strips of tape torn away by other means. Ethyl acetate on a tuft of absorbent cotton will do this nicely. Ethyl acetate acts as a solvent

of the adhesive, and is a very safe and satisfactory solvent to employ about the sick or convalescent ward. There are other esters that can be employed in lieu of ethyl acetate, but it is doubtful whether they will ever be as suitable, both from the odor, vapor pressure and economic standpoints. Several physicians and hospital attendants who have tried this solvent have praised it highly.

Doctor Zoller adds that it is no uncommon experience to have nurses and attending physicians in hospitals and homes tear the adhesive bandage loose from the patient, at the expense of pain and ill feeling. Whenever the hair has not been shaved, this mode of operation causes additional discomfort. Frequently, recourse is had to gasoline and other solvents, but gasoline may prove very unsatisfactory at times; nor is it as good a solvent for the adhesive,. A small bottle of ethyl acetate in the physician's kit or in the medical chest of the hospital, or, further, in the first aid cabinet, will greatly lessen the torture from adhesive bandaging.

LEPROSY AMENABLE TO TREATMENT

Leprosy is in a measure amenable to treatment, says the U. S. Public Health Service. During the last ten years (1912-21), a considerable percentage of the lepers segregated at the Kalihi Hospital near Honolulu and on Molokai Island have been paroled; that is, they have been released as being "not a menace to the public health," but have been required to report for examination at certain intervals which vary with the individual case. Of those paroled, about 13 percent have relapsed and have returned to segregation; but about one-fourth of these were later paroled for the second time. In all, 242 lepers were paroled; 31 relapsed and seven of these were later paroled. Ten were completely released from parole.

The chance of arresting the disease decreased with the length of time that it had been allowed to go without treatment unless this period was seven years or more. Apparently, patients who survive without treatment for seven years possess powers of resistance that slightly increase their chances for marked improvement under treatment.

Those who desire it are treated with chaulmoogra oil and its derivatives.

The parole system was begun in 1912 and has worked admirably. Those paroled appear to have told their friends that the conditions existing at the hospital were good; and the mere fact that they had been released has shown that segregation might lead to cure and not to lifelong confinement, as it almost invariably did previous to 1912. As a consequence, many lepers, instead of concealing the disease up to the last possible moment (and thereby spreading it through the community) are now surrendering of their own accord and taking treatment. This earlier surrender and earlier treatment hasten the degree of improvement that will secure parole and will later, perhaps, complete release. About 70 percent of these who have been paroled were in segregation for less than two years.

PENETRATIVE POWERS OF ARSENICALS

The probable reason why the chances for the complete cure of a generalized syphilitic infection are poor, says the U. S. Public Health Service, is because the usual remedies (arsphenamine, neoarsphenamine, and silver arsphenamine) all lack the power necessary to enable them to penetrate the infected tissues in sufficient amounts to destroy the last remaining parasites. Other arsenicals, sulpharsphenamine, tryparsamid, and 3-amino-4-oxyphenol arsonic acid, have superior penetrative powers and their use as remedies is suggested.

The report was made by Carl Voegtlin, M. I. Smith, Helen Dyer, and I. W. Thompson, all of the U. S. Public Health Service, after prolonged experimentation, both chemical and bacteriological, on rabbits. While the authors admit that results so obtained cannot be transferred, without reservation, to the treatment of human syphilis, they nevertheless advance several reasons that cause them to believe that a clinical trial of the more penetrative preparations named is strongly indicated.

In conclusion, they express, as Ehrlich did, their belief that, no matter what arsenical may be used, better results will be obtained from single large doses a week apart than from smaller doses given at shorter intervals.

CHILDREN PAY PENALTY FOR ANTI-VACCINATION PROPAGANDA

As ever in the history of smallpox, the case-incidence of new outbreaks is greatest where the influence of antivaccination propaganda is most effective. The unvaccinated children are the chief sufferers. This fact is shown on a gigantic scale in the recent experience of

the Philippine Islands (*Jour. A.M.A.*, July 1, 1922, p. 40).

Students of the prevailing world-wide menace of smallpox have seen many statements from antivaccination propagandists that the sad experience of the Philippines, in 1918 and 1919, was a repudiation of the principles of modern public health measures for smallpox suppression. These statements are mere allegations that 50,000 smallpox deaths occurred in the face of systematic, persistent vaccination. The real truth is, that the practice of effective vaccination had been exceedingly lax since the general campaign of 1909 or thereabouts, and that most of the 50,000 deaths occurred among the children and other elements of the population unprotected because of the indifferent pursuit of vaccination in recent years in the islands. The age statistics given by Drs. Heiser and Leach for Pangasinan and for Manila show a predominance of both cases and deaths among the unvaccinated. A careful review of these facts will make it possible for American health officers to refute diligently circulated misstatements of the antivaccinationists.

Some information on the age-incidence of smallpox cases in our own population has been furnished this office by Dr. W. M. Dickie, Secretary of the California State Department of Health. These facts bear out from American experience, the conclusions of Drs. Heiser and Leach. That which was expected in California has happened. A marked increase in the concentration of smallpox upon the ages which have the highest proportion of unprotected persons, occurred between 1916 and 1921. In 1916, 36.6 percent of the cases were of persons below 15 years of age; in 1921, this proportion had increased to 45.8 percent. As the number of unprotected children of school age increases, through the opposition of antivaccinationists to compulsory vaccination as a condition to school attendance, the number of smallpox cases among the young also increases. An example of the fallacy of the antivaccination appeals to parents may be obtained by paralleling what the antivaccinationists say with what Drs. Heiser, Leach and Dickie set forth from official records. The data contributed by Dr. Dickie are shown in the following table:

Age Distribution of Smallpox Cases in California, 1916 to 1921*

Ages	Number of Cases					Percent of Total				
	1916	1918	1919	1920	1921	1916	1918	1919	1920	1921
All ages	205	654	1560	4218	5278	100.0	100.0	100.0	100.0	100.0
Under 5	25	41	144	341	392	12.2	6.3	9.2	8.1	7.4
5 to 9	34	104	281	722	966	16.6	15.9	18.0	17.1	18.3
10 to 14	16	87	250	757	1060	7.8	13.3	16.0	17.9	20.1
15 to 19	16	78	178	408	628	7.8	11.9	11.4	9.7	11.9
20 to 24	23	49	118	292	354	11.2	7.5	7.6	6.9	6.7
25 to 34	41	110	189	570	607	20.0	16.8	12.1	13.5	11.5
35 to 44	30	117	222	602	685	14.6	17.9	14.2	14.3	13.0
45 to 64	16	65	159	468	516	7.8	9.9	10.2	11.1	9.8
65 and over	4	3	19	58	70	2.0	0.5	1.2	1.4	1.3

*Data for 1917 not available.
[Reproduced from *Statistical Bulletin*, Metropolitan Life Insurance Co., July, 1922.]

"ANOTHER LITTLE JOURNEY"

Just now, there came to our attention "Another Little Journey, a Posthumous Manuscript by Elbert Hubbard," printed by The Roycrofters and published by Davis & Geck, Inc., Brooklyn, New York. This is probably the last unpublished manuscript written by Elbert Hubbard before he went on his last little journey, on the "Lusitania", which proved to be that long, long journey from which no traveler returns.

In this interesting little booklet, Hubbard paid well merited tribute to the old-time country doctor, to the modern surgeon and to those who go to unlimited and uncounted pains and trouble to make the surgeon's work safe, namely, the purveyors of his tools and appliances—in this particular instance, the catgut that is used for sutures. Hubbard realized, after going through the establishment of Davis & Geck, that the preparation of catgut is by no means a haphazard affair but that it requires the greatest care. He praised unstintedly where he thought praise deserved. The possession of this latest manuscript by Fra Elbertus is one that its owners may well be proud of. We are grateful to them for making its contents accessible to us physicians generally.

Among the Books

It so happens that a good many books on tuberculosis and tuberculosis problems are announced in this issue of CLINICAL MEDICINE. The Reviewer employs the expression "announced" advisedly. Circumstances put it out of his power to prepare detailed actual reviews of the books which, still, had to be brought to the attention of physicians. It is hoped that honest-to-goodness reviews can be prepared by fall, and that these can be presented before the Chicago Tuberculosis Society, at its initial meeting of the next season (1923/4).

RITTER: "TUBERCULOSIS"

Handbook of Tuberculosis for Medical Students and Practitioners of Medicine. By John Ritter. Chicago: 1923. Price $6.00.

Here is a practical volume for the guidance of physicians in the management of their tuberculous patients. The author has long taught the subject and has become so fully familiar with its everyday, practical phases that the writing of a book was a natural result of his years of study, teaching and practice. The text reads as though one heard the author talk: clearly, simply, and understandingly. Truly, the book for the general practitioner. One that is worth while.

PAGET: "TUBERCULOSIS"

A Simple Treatment for Tuberculosis. By Owen F. Paget, M.D. With Introduction by J. George Adami, M.D. and Prefatory Remarks by W. P. Birmingham, M.D. New York: William Wood and Company. 1923. Price $1.75.

Doctor Paget's treatment is based upon the well-known fact that the nasal secretions constitute a powerful defensive force against bacterial infection. The defense is not only mechanical in washing out bacteria that have been inhaled, but it has been demonstrated that it possesses active bactericidal power and that this can be increased artificially.

The treatment consists essentially in the insufflation of tubercle-bacillus emulsion in known quantities. Not only the author but also others have employed the method with very pleasing results, and it seems to be the more promising as corresponding investigations in the Pasteur Institute with reference to the upper trachea lend potent support to it. Tuberculosis students and physicians will surely be interested in this ingenious and simple method of treatment, and it is to be hoped that its actual value will be established definitely.

WEBB AND RYDER: "TUBERCULOSIS RECOVERY"

Recovery Record for Use in Tuberculosis. By Gerald B. Webb, M. D., and Charles T. Ryder, M. D. New York: Paul B. Hoeber, Inc. 1923. Price $2.00.

This personal record for tuberculosus patients contains excellent suggestions and advice. Also, it is supplied with charts in which temperature and pulse readings can be entered, while numerous wise, stimulating and encouraging sayings are placed at the head and the foot of the chart pages.

The little book is so personal that it will appeal to the patient. Its use is to be recommended highly.

JACOBS: "THE TUBERCULOSIS WORKER"

The Tuberculosis Worker. A Handbook on Methods and Programs of Tuberculosis Work. By Philip P. Jacobs. Baltimore: Williams & Wilkins Company. 1923. Price $3.00.

The scope of this work is self-evident. Physicians need it insofar as, often, they may have to direct the activities of tuberculosis field-workers. Nurses and others will study it for the guidance that will be found in its pages. We believe that nothing just like it has ever been done. Doctor Jacobs is unusually well fitted for the work, because of his long activity as a member of the headquarters of the National Tuberculosis Association.

KRAUSE: "REST"

Rest and Other Things. A Little Book of Plain Talks on Tuberculosis Problems. By Allen K. Krause. Baltimore: Williams & Wilkins Company. 1923. Price $1.50.

This useful little book is as suitable for the intelligent layman, especially the tuberculosis

patient and his relatives, as it is for the physician. The topics discussed are: Rest; The Treatment of Tuberculosis; Sputum Infection of Children; Adult Tuberculosis from Childhood; Infection and its Prevention; Anti-tuberculosis Measures; The Tuberculosis Problem; The Elements of an Adequate Tuberculosis Program; Some Problems of Medical Education in Tuberculosis.

The several chapters are reproductions of articles published in journals or of addresses delivered on various occasions. It is well to possess them in collected form. The book is useful.

KRAUSE: "ENVIRONMENT AND RESISTANCE"

Environment and Resistance in Tuberculosis. A presentation of the nature of environment and resistance and their relation to the pathology, diagnosis, symptoms and treatment of tuberculosis. By Allen K. Krause. Baltimore: Williams & Wilkins Company. 1923. Price $1.50.

Here is another splendid little volume by Doctor Krause for which physicians will owe him thanks. Environment and resistance—the old battling ground that had occupied the minds of thinkers in the old days, before the bacteriological basis of tuberculosis was understood; that seemed to have been pushed aside and, perhaps, solved, with the bacteriologic knowledge submitted by Koch and developed by others; and that irresistibly came to the front again, almost at once, when it was found that not every one in whose organs tubercle bacilli find lodgment acquires tuberculosis.

The problems of environment may be reduced, in a way, into tangible figures and may be worked out. Those of resistance, including the difficult question of constitution, are as puzzling, as difficult to understand as they ever were. Doctor Krause presents a discussion of the subjects that will help us to gain an understanding, at least to some extent. He does not solve them. That would be impossible. Still, he aids us in developing some lucid ideas about them.

CALMETTE: "T. B. INFECTION"

Tubercle Bacillus Infection and Tuberculosis in Man and Animals. Processes of Infection and Resistance. A Biological and Experimental Study. With 31 text illustrations and 25 colored plates. By Albert Calmette. Authorized Translation by W. B. Soper and G. H. Smith. Baltimore: Williams & Wilkins Company. 1923. Price $8.00.

This volume is intended for the tuberculosis student. Its object is, "to sift out from the most important of tuberculosis studies [including those of the author himself, which have been considerable.—Ed.] the scientific principles on which to base, in the present state of our knowledge, the campaign against the most terrible of human infectious diseases."

Those who are familiar with Professor Calmette's work during the last two decades or so will understand that the book speaks for itself and that it does not need any support from outside. The tuberculosis student, the research worker, the laboratory man, but, also, the physician and the veterinarian who deal much with tuberculous subjects will find it a powerful aid in their studies. The translation is well done.

WELLS: "CHEMISTRY OF TUBERCULOSIS"

The Chemistry of Tuberculosis. Being a compilation and critical review of existing knowledge on the chemistry of the tubercle bacillus and its products; the chemical changes and processes in the host; the chemical aspects of the treatment of tuberculosis. By H. Gideon Wells, Lydia M. DeWitt, Esmond R. Long. Baltimore: Williams & Wilkins Company. 1923. Price $5.00.

This book naturally will interest the tuberculosis student and the laboratory worker far more than the general practitioner. Still, a knowledge of the chemistry of tuberculosis is important for the latter, too, inasmuch as it will open up a better understanding of many phenomena that he observes.

MORSE: "INFANT AND YOUNG CHILD"

The Infant and Young Child, Its Care and Feeding from Birth Until School Age. A Manual for Mothers. By John Lovett Morse, A.M., M.D., Edwin T. Wyman, M.D. and Lewis Webb Hill, M.D. Illustrated. W. B. Saunders Company. 1923. Price $1.75.

This is the most recent one of the mothers' books; informing them of what they should know in order to intelligently feed and care for their children from the time they are born until they are six years old. The text impresses us as being unusually well considered and carefully prepared. We are glad to see that the open-window fetish has not been worshipped by insistence upon wide open windows in all weathers and all the year round. The authors declare, very correctly, that, in zero weather, it is foolish to have the window wide open: a few inches is enough. In re-

gard to travel, automobiling, etc., good advice is given, the gist of which is, that the proper place for the baby is at home.

The text of this little book is very readable and we recommend it cordially for the purpose for which it is intended.

HUME: "BECHAMP OR PASTEUR?"

Béchamp or Pasteur? A Lost Chapter in the History of Biology. By E. Douglas Hume. Chicago: Covici-McGee. 1923.

At this time, when the name of Louis Pasteur is in everybody's mouth, when dinners and banquets are given in commemoration of his acquirements, when a wonderful scientific exposition being held in Strassbourg is closely associated with his work, there appears a little book designed and attempting to throw doubt upon those things for which Pasteur is held in grateful memory, for which he is being honored and which are intimately associated with his name. This book denies the prevalent belief that Pasteur was the first to explain the mystery of fermentation, the cause of the diseases of silk-worms, and the cause of vinous fermentation; moreover, it asserts that his theories of microorganisms differed in basic essentials from those of the observer who, it seems, has been the real originator of the discoveries to which Pasteur has always laid claim.

In short, it is asserted that it was not Pasteur but Pierre Jacques Antoine Béchamp who actually is to be credited with all those wonderful discoveries upon which modern sanitation, bacteriology, immunology and biologic science are based. Béchamp was a remarkable man, a master of pharmacy, doctor of science, doctor of medicine. He was professor of medical chemistry and pharmacy at Montpellier and taught physics and toxicology, also chemistry, in Strassbourg. He was professor of biological chemistry in Lille. His researches and investigations, continued through many years of hard work, carried him far and often dealt with the same topics that Pasteur attacked.

The assertion of the author is that, in virtually everything, Béchamp opened the way, made the basic discoveries and that Pasteur followed, but without giving credit to his senior for work actually accomplished. Indeed, it is claimed that, for instance, Pasteur's "alleged" refutation of spontaneous generation can not be attributed to him; that he asserted spontaneous generation to occur, *de facto*, long after Béchamp had disproved it; that he, in his turn, yielded his belief in spontaneous generation only by being forced.

There is much interesting documentary material collected in this little book. However, it takes the position that the socalled germ theory of disease causation is based on error and that Béchamp's explanation, if elaborated and developed, would have been far closer to the truth.

The author's argument loses somewhat by its frank denial of the value of vaccination against smallpox and of active immunization in general. He even speaks of the modern ideas concerning the causes of infectious diseases as though these were found solely in pathogenic bacteria. He loses sight entirely of the fact that the strict and exclusive bacteriologic view enjoyed but a very brief vogue and that very early the essential importance of the soil, not only of the seed, of constitutional resistance, not only of infection was realized and made the subject of deep study for decades.

The historian will be interested in Mr. Hume's book. Whether time will ever decide against Pasteur and for Béchamp, we are not prepared to decide.

SANBORN: "BASAL METABOLISM"

Basal Metabolism: Its Determination and Application. Frank B. Sanborn, M.S., Editor. First Edition. Boston: Sanborn Company, Publishers. 1922. Price $6.00.

This book is dedicated to the men and women who apply science in diagnosis and diligently labor to prevent the advance of disease. It is intended to supply the physician and the laboratory technician with a guide in making tests of metabolism and in interpreting the results of these tests. In view of the fact that the various apparatus employed have multiplied and that the different methods of interpreting results can be understood only through great familiarity, the various chapters have been contributed by different authorities. Each of the ten chapters containing original articles was prepared subjectively, as expressing the author's views. Various chapters are devoted to different forms of apparatus—showing a commendable spirit of impartiality. Nine forms of metabolism apparatus are described and information is given of the best methods of using each apparatus so as to obtain the best results.

In addition to the original articles, there are twelve chapters containing authoritative abstracts from contemporaneous literature.

While the first part of the book is technical,

the second deals with the clinical application of basal metabolism determinations. We find these tests of importance in hyperthyroidism, in hypothyroidism, in fevers and in surgery. In many general conditions, too, determinations of the basal metabolism have been found of great service.

WARD: "ENCYCLOPEDIA OF FOOD"

The Encyclopedia of Food. The Stories of the Foods by which we Live; How and Where they Grow and are Marketed; their Comparative Values and How Best to Use and Enjoy them. Published by Artemas Ward. New York, Number Fifty Union Square. 1923. Price Ten Dollars.

The earlier edition of this rarely beautiful Encyclopedia of Foods was reviewed in Clinical Medicine for April, 1917. There, we expressed our appreciation of the enormous amount of valuable information contained in its pages, of the beautiful make-up, and of the interest attaching to it generally. During the years, since then, we have had frequent occasion to consult the work and always have been the gainers. Many times, we were, thereby, enabled to pass on important information that had been requested by our correspondents.

This new edition is fully up to the high standard of the older one. The same complete and exact information about the most manifold food articles; in addition, matters discussed that are intimately related with food marketing, preparation, eating, etc. So, for instance, we find articles or bacteria, on baking powder, on cookery, on drying, evaporation and dehydration, ice, refrigeration and cold storage—to mention only a few of the headings. All these, in addition to the discussions of the food articles themselves. The illustrations are remarkably fine, the colored plates surprisingly true to life. We can assure our readers that ten dollars, invested in this unusual work, will prove a paying investment.

MEDICAL CLINICS OF NORTH AMERIA

The May issue of *The Medical Clinics of North America* is the San Francisco number. It contains a wealth of interesting and instructive articles. We note, for instance, one on that much discussed topic, the diagnosis of gall-stones. One deals with the relation of some cases of epilepsy to endocrine dysfunction. Hereditary Myxedema and the Clinical Value of the Goetsch Test are other articles denoting the general interest in endocrine problems. Other titles are: Diagnosis and Treatment of Pyloric Stenosis; A Discussion of Thick Feeding in Infancy; Rheumatic Endocarditis; Radium Treatment of Carcinoma of the Lip, among many others.

The Medical Clinics of North America is published bimonthly by W. B. Saunders Company, the subscription price for the six annual numbers being $12.00. The individual articles are unusually appropriate for the information of general practitioners and fully merit the great favor with which this publication is considered.

INTERNATIONAL CLINICS

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles—Edited by Henry W. Cattell, with the collaboration of Chas. H. May and others. Philadelphia. J. B. Lippincott Company. 1923. Volume II. 33d Series. Price, $10 a year.

The outstanding feature of this volume of the "International Clinics" is a collection of four articles on the timely topic of Insulin, the new organic substance, discovered by Banting, of Toronto, for the treatment of dial etes mellitus. On that account alone, the volume should prove highly acceptable.

Among the numerous other original articles, we are attracted by one on The Pathology of Will and Voluntary Action. This will help the physician in solving many of the apparently hopeless and puzzling cases that so often confront him. There are other articles of marked merit. The volume is filled with valuable information.

WHITESHIELD: "CLOVERLAND ECHOES"

Cloverland Echoes. By C. F. Whiteshield, M. D. Author of "Legend of the Lonesome Pine." Powers, Mich. 1923. Price, 50 cents.

This attractive little booklet contains a collection of charming poems that breathe the spirit of the great outdoors. They take you into the woods, along the streams and brooks, through the country roads of the beautiful Cloverland, one of the nature spots of Michigan. We have enjoyed reading many of the poems and nibbling at others, as we would at titbits and dainties. The author is not only a physician and a poet but also a fisherman. That will endear him to his brothers of the Isaak Walton tribe. May they never diminish.

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The Duration of Pregnancy

WHEN the duration of pregnancy, which is commonly estimated at a "normal" of 280 days, is greatly exceeded or much curtailed, the case may assume medico-legal importance, inasmuch as it may happen that the legitimacy of the offspring is placed in question. Take, for instance, a case where, after a long absence, the husband returned home on May 13 and lived with his wife for several weeks thereafter. The wife, who menstruates irregularly, had her last period on April 5. The child was born on November 23; that is, 194 days after the date of the husband's return and, presumably, of the fruitful coitus. The doctor held the child to be premature, although it weighed eight pounds at birth in scales which subsequently were said to be inaccurate. The child was nursed by the mother; no trouble was found in rearing it.

Now, a child born 194 days after fruitfut coitus would be in the twenty-eighth week of gestation, when the average weight is from 2½ to 3 pounds. At that date of prematurity, the child is extremely feeble and can be reared only exceptionally.

On the other hand, take cases in which a single coitus occurs, after which the husband leaves home, while pregnancy follows and does not terminate for as much as 310 and more days. Such cases of protracted gestation are on record and it has been shown that isolated instances have been prolonged to as much as 320 and even 336 days. Babies born after protracted gestation are very large, usually, and show other signs of postmaturity.

This subject, which is of considerable interest, formed the topic of an address by Dr. Thomas Watts Eden, who is obstetric physician to the Charing Cross Hospital, London (*Lancet*, June 15, 1923).

Doctor Eden expresses the opinion that, to determine the "normal" duration of pregnancy, is in reality a problem of great complexity and it probably does not admit of a precise solution.

If a child is born upon a given date, is it possible to determine therefrom the date of its procreation, or conception, with precision, and, if not, can limits be set beyond which the procreation of the child would not be possible? It is conceivable, Doctor Eden says, that, in the future, the question of parentage may be attacked in quite a different manner from that in vogue now. It is possible that certain reactions of the blood may become of service under

limited circumstances. The reaction of blood corpuscles in relation to clotting allows of four blood-groups being distinguished. It has been shown that these characters of the blood are transmitted on Mendelian principles, and it is not impossible that a given blood-group in the child may be shown to be incompatible with certain other blood groups in the presumptive parents. However, since these problems have by no means been settled, the only possible medical contribution to question of parenthood at present lies in the question of the duration of pregnancy and its relation to the characteristics of the child when born.

In calculating the duration of pregnancy, Doctor Eden quite properly prefers to speak of the *average* rather than the *normal* duration. Wide variations from the average may occur without any clearly-defined departure from the normal in the characters of the child when born. In a series of 782 carefully-observed cases, the extreme limits of gestation were 252 days and 326 days; with a mean figure of 289 days. The variation in either direction from the mean amounts to 13 percent

One important factor that renders the calculation of the pregnancy duration difficult it is the uncertainty as to the incidence of ovulation. Whether gestation be calculated from the first day of menstruation or from the last, is equally unreliable for the reason that ovulation by no means necessarily coincides with menstruation. The menstrual cycle varies in length not only in different women but in the same woman at different times. Indeed, it has been shown that [considering the premenstrual period, the period of actual menstruation and the postmenstrual stage, all of which have been claimed to cover about three weeks] ovulation may occur within a reasonably variable space of time. Since it is known that spermatozoa may remain alive in the Fallopian tubes for three weeks, and since it is possible that even that does not represent the extreme limit of their vitality, it is manifest that ovulation occurring, say, on the first or on the last day of such a three-week period would change the duration of pregnancy materially. All this produces a great degree of uncertainty, and it must be admitted that fertilization (which is the actual commencement of gestation) may occur as much as three weeks after the last monthly period, even in the absence of a further coitus In this manner, it may be made to appear that pregnancy has lasted three weeks longer than is actually the case.

Nevertheless, it must be assumed that the actual process of gestation varies in length not only in different subjects but in the same woman in successive pregnancies. This is indicated by the difference of 74 days in the extreme figures (252 and 326) of gestation. In the case of one woman, three successive pregnancies terminated at 277 days, at 325 days and at 285 days respectively, which show that a wide variation may occur in the same individual in the length of the gestation period.

A further source of error may possibly lie in the actual cause of labor and we do not know by what means pregnancy is terminated and what it is that brings about the expulsion of the child from the uterus.

From all this, Doctor Eden concludes that we are quite unable to deduce with precision the date of procreation (or conception) from the date of delivery. He therefore attempts to make such a deduction from the characters of the child when born. While a child is held to be viable after a gestation of twenty-eight weeks, it is known that the rearing of a child born thus prematurely between the calculated periods of twenty-eight and thirty-two weeks is extremely difficult and attended by a very high mortality. Babies born thus prematurely present certain characteristics as to weight and length and other signs of prematurity.

For practical purposes, Doctor Eden refers to the average weight of a child born at term as seven pounds. In 500 carefully-observed cases at calculated full time, the weight varied between four pounds eleven ounces and nine pounds twelve ounces. In a series of cases carefully estimated to be of thirty-six-week development (that is, one month premature), Eden found the weight to vary from four to seven pounds. Of course, the closer delivery is to term, the less any existing signs of incomplete development will be. Unfortunately, in this matter also, our information is only tentative at best.

Medico-legally, the greatest interest attaches to those cases in which the average duration is exceeded considerably, and Eden speaks of "protracted gestation" when pregnancy exceeds three hundred calculated days from the last menstruation. Such cases are not so very uncommon and Eden has found that something like 6 percent of cases surpass the three-hundred days in Germany, while this frequency is less in England, and he believes that racial characteristics have their bearing upon the length of the gestation process. In all these calculations, it must be remembered that the possibilities of error are great.

Eden attaches considerable importance to the

weight of the baby at birth. While this also varies materially and may be as high as ten pounds in babies supposedly born at term, it is Doctor Eden's opinion that the possibility of postmaturity should be entertained in the case of all children weighing ten pounds and more at birth. In such cases, other fetal characteristics besides weight may be taken into consideration.

In a series of cases in his private practice, in which the calculated period lay between 290 and 300 days, the weight of the child varied from eight and one-quarter pounds to twelve pounds, the average being nine and one-half pounds. In a series of six cases reported in literature, in which the calculated period lay between 320 and 336 days, the smallest baby weighed eleven and one-half pounds and the largest thirteen and one-quarter pounds. It will be seen that the figures are all at least 65 percent above the average weight at term, although the weight is evidently not determined solely by the duration of pregnancy. In concluding his discussion, Doctor Eden declares that sufficient medical data have been accumulated to show that human pregnancy may be prolonged to a period of 336 calculated days, and that there is nothing to show that even this figure is the outside limit beyond which prolongation of pregnancy is impossible. Further, he submits that cases of prolongation of pregnancy beyond 320 calculated days are so rare that alleged instances should be very carefully scrutinized and that confirmatory evidence should be forthcoming if they are to be accepted as authentic. The child would in all cases be much above the average weight of children born at term; moreover, the other bodily dimensions of the child, which have not been referred to in this paper, would be also much above the average. If such confirmatory evidence is wanting and if the circumstances of the case offer inducements for misrepresentation, we as doctors would be obliged to reject the authenticity of the case.

The best that we can do for one another is to exchange our thoughts freely; and that, after all, is about all.—Fronde.

MEDICINE AND THE ALLIED SCIENCES

In conversation with an advanced student at the University of Chicago, the other day, I was told of some lively discussions being held there, by medical students and physicists, concerning Abrams' methods of diagnosis and treatment. It appears that the "medics" are anything but clear in their ideas concerning this thing and that the physicists charge them in effect with muddle-headedness and suggest that they should formulate their ideas more exactly.

Incidentally, it is difficult for us to see how anybody *can* have clear and lucid ideas on this particular subject. Still, it seems only fair to demand that theories on which actual work is based should be presented in a reasonably intelligible manner.

The gentleman with whom I was talking referred to the existing isolation, among scientists, of medical men and the fact that diseases are studied almost entirely from a purely medical aspect. By way of illustration, he pointed out that, while years ago, chemistry and physics constituted two separate and distinct sciences, at present the dividing line between the two could hardly be drawn and that it was impossible to say where chemistry ends and physics commences.

It was agreed that the study of disease and, no less, the study of sick people, should with profit be undertaken from the viewpoints not only of the clinician, the pathologist and physiologist, and the psychologist, but that the chemist and the physicist should be enrolled likewise and that, in this manner, the expectation of ultimate success in gaining a true understanding of many obscure disease processes would be greatly increased.

We are quite accustomed to pride ourselves on the marvellous advance that medicine has made in recent years; and justly so. However, if the suggestion looking toward a more complete corps of investigators were carried out, I believe that a more inclusive, complete and correct understanding of our clinical problems would be gained and that, ultimately, the progress made in clinical medicine would be far greater than it has been at any one period in the history of medical science and art.

I am reminded of the staffs of research workers—scientists, pure and simple—who are employed by some great manufacturing concerns. It is my impression that such scientific staffs originated in Germany. These investigators are turned loose to follow their studies in any line or along any lead that may promise results of interest. They are not limited in time or stinted in money and facilities. If they produce nothing tangible in five years, well and good. Something may turn up in the sixth or tenth or fifteenth year. In this manner, numerous valuable inventions have been suggested and the result was obtained by coordination of effort and by the continued co-

operation of many investigators.

It may happen that a physicist does not get anywhere much with his problem and that he turns it over to the chemist pure and simple. From him, it may go to the electrician or to a mechanic; in short, it may make the round of the consultants before tangible results are obtained.

I am thinking that something similar would be very feasible in problems of health and ill health. I can imagine a corps of physiologists, pathologists, chemists and physicists, of electricians, both theoretical and practical and, especially, of physicians; but the latter should not be desk-physicians—theorists who have completed their medical course and are now possibly instructors in some theoretical subject or editors of medical journals or writers of medical books; all this without ever having examined a patient or treated a sick person. There are such people, although I can hardly conceive it possible that they call themselves physicians. Such men would be of no earthly use in a concilium of the kind I have in mind. The men who serve there would have to be *practical* men, men who have served their apprenticeships in the practice of medicine, who have been general practitioners, who, at the same time, are accomplished in the medical sciences and who could best suggest and guide investigations, studies and researches of the kind that I am thinking of.

This dream of mine appeals to me. It would require an institution analogous to, although not like, the Mayo Institution. It would have to be financed with the aid of a wealthy endowment, for, the members of the concilium would have to be well-salaried so as to be free from the strain incidental to earning a living. The facilities, both clinical and scientific, would have to be immense; numerous laboratories of all sorts would have to be at their disposal—of course, with adequate staffs of technicians. It would require library facilities like those afforded by the Surgeon-General's library, the library of the New York Academy of Medicine, that of the Boston Medical Library Association, or the John Crerar Library, in Chicago, etc., to serve the needs of these students. In short, the thing would be expensive and might not lead to tangible, practicable results for a number of years.

But, ultimately, in course of time, what remarkable gains could be made by a corps of devoted investigators that would enter upon every single problem from every conceivable viewpoint. I imagine that the history of many diseases would have to be rewritten and that the study of disease, from its very inception, would be rendered successful and fruitful of results, in a degree that we hardly can conceive today.

Leisure is time for doing something useful; this leisure the diligent man will obtain; but the lazy man, never.—Benjamin Franklin.

TUBERCULOSIS VACCINES

The reasons why vaccine therapy has not proved as uniformly successful in tuberculosis as in other bacterial diseases are manifold. We have frequently expressed the view that one of these reasons had to do with the multiple infection which exists almost invariably in cases of clinical tuberculosis and in consideration of which most physicians who are in favor of active immunization subject their patients to different steps of treatment. For instance, Crofton, of Dublin, ("Pulmonary Tuberculosis, Its Diagnosis, Prevention and Treatment," London, 1917) declares it to be advisable to immunize the tuberculous patient first against the associated "catarrhal," bacteria (or the mixed infection) before progressing to the immunization against the tubercle bacillus.

However, the great number of tuberculin preparations which have been offered to the medical profession, since the old tuberculin was first announced by Koch, in 1890, in itself bears witness to the difficulties attending the production of an active and successful tuberculosis vaccine. One reason for this has long been realized as being associated with the fact that the tubercle bacillus belongs to the "acid-fast" group, being provided with a fatty-waxy capsule that makes it more difficult to subject it to the action of chemicals and of the tissue fluid.

In *The Prescriber* for July (p. 259), an announcement, by Professor Dreyer, of Oxford, is referred to according to whom treatment of the tubercle bacillus with formalin and its subsequent extraction with acetone removes the lipoids, leaving a bacillus which is no longer acid-fast, which can be digested with trypsin and which will cause the production of antibodies when injected into animals. Dreyer has shown that a vaccine prepared on these lines effects definite improvement in animals with experimental tuberculosis. Professor Dreyer's report was made in the course of a lecture given at St. Mary's Hospital, in London, and was announced in the daily papers,

with the usual sensational headlines to which we are quite accustomed.

The editor of *The Prescriber* points out, quite correctly, that the idea of defatting the tubercle bacillus is not new. He refers to Fornet, who reported early in 1922 (*Deut. Arch. f. Klin. Med.*) that a tuberculin prepared from defatted tubercle bacilli was more effective than one not so prepared. He employed ether as a solvent for the tubercle bacillus. Wassermann obtained like results with tetralin and Dreyer used acetone.

All of this is very interesting, but we are wondering whether Professor Dreyer gave suitable credit to those several investigators who have preceded him in his particular line of research. As a matter of fact, the importance of the tubercle-bacillus fats was recognized as long ago as 1897 by an American physician, the late Dr. Karl von Ruck, whose Watery Extract of Tubercle Bacilli was produced with the deliberate intention of eliminating the fats to which he attributed the unfavorable effects of the old tuberculin. While an ordinary tubercle-bacillus culture contains twenty-five percent and more of fatty substances, the Watery Extract of Tubercle Bacilli contained only faint traces, and even the later and more complete tuberculosis vaccine, which von Ruck perfected in 1912, carried not more than one-hundredth of one percent of fatty substances, since he had found that a fatty content of one percent gave rise to necrosis at the point of injection.

During his entire period of research and study of the tubercle bacillus, which lasted from before 1890 to his death (1922), von Ruck always insisted on the great importance of determining the exact chemistry of the bacillus and of eliminating the fats before the tubercle-bacillus cultures were worked up for the preparation of a vaccine.

Similar researches were published at least twelve years ago by Much of Hamburg and Deyke of Lübeck, who based their investigations of the tubercle bacillus upon their findings in the lepra bacillus. These research workers also laid stress upon the importance of the fatty constituents of the tuberculosis germ and even declared that these fatty substances, on being injected into the organism, not only produced harm (in larger doses) but that they would stimulate the production of antibodies specific for themselves on being introduced in sufficiently small amounts.

Somewhat later, Crofton, of Dublin, whom we have already mentioned, published a number of papers recording his tuberculosis "Antigen", in the preparation of which also the fatty constituents of the tubercle bacillus are put in solution and (we believe) curtailed in amount.

It will be seen that Professor Dreyer's idea is by no means new and that it has the support of investigations, and of splendid clinical results, be it said, that antedate his own work by over twenty years. Truly, there is nothing new under the sun and it is gratifying to see that, at this late date, the position defended long since by Doctor von Ruck has found confirmation.

There are but three classes of men, the retrograde, the stationary, and the progressive.

POPULAR MAGAZINE MEDICINE

The medical mind, collectively and individually, is a peculiar mixture of contradictory—let us say, complexes. We seem to find it difficult to break ourselves of the old-time attitude when the physician's orders were accepted as gospel without discussion, without objection and often unthinkingly. The fact that, many times, they were based on guess work made this state of affairs all the worse.

Times have changed in that as in so many other respects. Physicians have come to realize, in far greater degree than formerly, their limitations and to admit them honestly; which is a good thing.

For the last fifteen or twenty years, the public has shown a surprising and yet commendable interest in medical matters and has developed a lively desire to know, to be told, to have things explained. It is no longer sufficient for the physician to deliver an *ex cathedra* diagnosis followed by arbitrary orders without facing the question: Why? He is expected to explain what medicine will do and in what way it will ameliorate the disease.

Especially since John Hopkins Adams' first disclosures concerning the patent-medicine evil, popular magazines and newspapers have eagerly devoted space to problems that formerly seemed exclusively to belong to the domain of the physician. Articles are being printed on all sorts of topics, and it may happen that a physician, who has not read up recently on such topics and whose memory concerning them may have become rusty, may be placed in very difficult position through inconvenient questions. Special favorites are topics related to "new things", concerning problems that are still under discussion but about which preliminary and necessarily incomplete information has been given out. It is unfortunate that dis-

coveries or results of investigations come to the cognizance of the public prematurely, because, in that manner, unjustified hopes are aroused. One of the most glaring examples is the first announcement of tuberculin which was forced upon Koch against his will and before he had satisfied himself concerning the possibilities and the limitations of his discovery. We see another striking instance in the newspaper notoriety which a clever press agent procured for Voronoff and his monkey glands. More recently, Doctor Banting's discovery of insulin might prove harmful in some ways, if the production of this valuable substance were not guarded carefully and if care were not taken to limit the output and to supply only properly-qualified physicians.

Nevertheless, the popularization, as it were, of medical discoveries, medical advances, etc., is a good thing—a good thing in several ways. It not only encourages the popular mind to remain open to progress and to think reasonably along matters of health and ill health but it also has the wholesome result of forcing physicians to acquaint themselves diligently with new problems and with new developments of old problems.

Doctor Kern's article in CLINICAL MEDICINE for August, in which he discussed the psychology of crime, was brought vividly to our minds on reading an article appearing in *Collier's* for August 8. This was prepared by Edward H. Smith and deals with that phase of criminology which has recently interested medical men and also a fair proportion of the legal fraternity, especially judges. Mr. Smith finds that criminals very often are abnormal in some respects. If abnormalities amounting to some forms of actual insanity can now be definitely cured, and if the next ten years are likely to bring forth advances undreamed of today, it begins to look as if the criminal problem might have to be taken out of the hands of the police and the lawyers and put into the hands of the doctors, and, Mr. Smith adds, the medical men will do a much better job.

He refers to the small beginnings of this change which are already to be seen in the treatment of emotionally instable types by endocrinologists. At the Postgraduate Medical School and Hospital of New York, a number of these unfortunates are being taken care of, who have been sent from the courts for treatment. The treatment of emotional instability through gland medication is further advanced and better understood today, it is claimed, than any other medicinal or surgical treatment for criminals and abnormals.

Emotional instability, based on gland derangements, affects some of the finest and rarest minds among men. The most sensitive and delicately tuned natures, the men and women who should do the world's exceptional work, are often its victims. Some of them wind up their days in prison, while men say: "He is a brilliant man; a genius. What a pity he isn't straight."

"We know now that many men commit crimes because their thyroid glands or other glands are out of order. It is now certain that these glands control the activities of our nerves altogether, including the workings of our brains.

"This means that science has brought the matter of human conduct or misconduct down to a physiological and even to a chemical basis. Men do not err because they are evil, but because of chemical disturbances in that marvelously intricate machine, the human body. It would be going too far to say that we understand the treatment of all criminals today, but we do know how to restore some to normal and useful life."

Of course, Mr. Smith's account is unduly optimistic and, as a matter of fact, we are by no means as familiar with the consequences of endocrine deficiencies and with the relation of criminal tendencies and endocrine dysfunction as would appear. It is true, however, that much work has been done in that direction and it is true that, especially in criminology, some interesting discoveries in that direction have been made.

Without knowledge there can be no sure progress. Vice and barbarism are the inseparable companions of ignorance. Nor is it too much to say that, except in rare instances, the highest virtue is attained only through intelligence.—Charles Summer.

HOMEOPATHY AND THE CULTS

One of my correspondents, a regular practitioner, whose criticism of Doctor Ochsner's article we included under the title: "Our Homeopathic Friends Object" (August issue, p. 599), feels that his letter lost in force by being classed with letters from Homeopathic physicians. He considers himself obliged now to add some constructive comment. He says:

"I have seen some unexpectedly good results follow in the wake of Chiropractic treatment; I have seen some interesting and unlooked for results, in both, diagnosis and treatment, obtained by the Abrams' method; I have seen Osteopathic treatment do some good work; I have seen pure homeopathy produce results when all orthodox treatment had failed.

"Now, let's get at the bottom of all this

mess of crude 'fluid extract' or 'cult root.'

"Let's start in as a sensible collection of medical men and do something. I mean, let us extract the active principles and let the medical profession have them in suitable form to dispense free from all dross."

We have not the slightest doubt about it that our correspondent and others have seen unexpectedly good results follow in the wake of Chiropractic treatment, the treatment by Ahrams' method, osteopathic treatment, purely homeopathic treatment, and all the rest of it. We ourselves have seen astonishing results after hydropathic treatment, and after Coué. Dr. James J. Walsh, whose book on "Cures" has been reviewed in another department of this issue (p. 705), would trace all these results to psychic factors. That may be correct; then again it may not. We have a strong suspicion that virtually all socalled internal diseases or, perhaps, better, ailments, possess a great psychic factor and that all "chronics" present a certain neurasthenic element that sometimes is difficult to determine and that, nevertheless, is very real. It is not a cause for astonishment that, in so far as the psychic factor is involved, almost any method that is utilized to supplement a previous line of treatment would bring unexpectedly good, unlooked for, interesting, etc., results.

You see, the treatment of "medical cases," or of patients complaining of non-surgical ailments, can not be undertaken by the rule of thumb, nor is it a definite, mathematical proposition, nor is the problem at all clear-cut. Invariably, we have more than one unknown factor and at least one variable quantity to consider in our investigations and in our remedial measures. A patient may respond astonishingly to a drug or to a method of treatment and may advance toward cure materially. After a few weeks, the very same means may prove worthless and remain without results entirely.

Shall we say that the ailments are "purely imaginary" and that, therefore, the patient imagining himself or herself ill is not ill by no means? We are reminded forcibly of the assertion of a noted French clinician, that an imaginary disease is not an imagined disease and that a patient who imagines himself ill *is* ill. Supposing it were the psyche only that is ill; that surely constitutes illness, not necessarily mental aberration, but still illness. According to the nature of the plaint, the treatment must be adjusted. If physical means are adequate to meet mental complaints, let the physical means be used.

It must be admitted that our surgical colleagues are prone to lose sight of this important factor of the patient's mentality. They are apt to become very impatient and to consider the matter closed when they inform you, after consultation, that the patient is nothing but a neurasthenic. The surgeons are so accustomed to see concrete evidences of abnormal conditions under their knife and they are so greatly in the habit of removing the evidences and the consequences of disease that they may lose sight of all the underlying and contributing factors that brought about the changes which actually are subject to surgical treatment. Surgeons deal with end-results. The beginnings of surgical diseases are almost invariably medical, internal—of course, with the important exception of injuries, whether cutting wounds or gun-shot wounds, or burns, or scalds, and such.

To come back to the problems of the internist, it must be admitted that it is extremely difficult and often impossible to evaluate the merits of any one method of treatment, and this very fact supports our contention that all irregular cults, all sects in medicine, all special forms of treatment, can not be invariably successful, for the reason that their viewpoint is limited.

By all means, let us adopt the suggestion of our correspondent. Let us investigate all the claims and the methods that are announced and promulgated, and let us find out in how far and under what circumstances they can be of benefit. It is quite true that adherents to special forms of treatment are handicapped in so far as they view disease problems in a limited manner. It is equally true that practitioners of medicine in general permit themselves only too often to become limited in their own outlook and that they are too prone to attempt the treatment of their patients by means of drugs or of physical methods of treatment in a manner which closely adheres to fixed schedules. You can never "rubber-stamp" people; you can never fit them all under the same hat. In all cases, it is necessary, first of all, to study the patient as an individual, and then the case, according to its merits. In one patient, chiropractic adjustment might produce benefit when, in another patient making the same complaints, presenting the same symptoms, such an adjustment would be considered as an insult and as worse than useless. The same is true for all other special methods of treatment, and we can but return to the opinion expressed further back that the psychic factor is very great in all

patients with chronic ailments. Once you have acquired the habit of consulting a physician, it is an extremely difficult thing to break away from it.

Therefore, one of the most helpful things that a physician can do for his patients is, to try deliberately to wean them of their dependence upon the physician's help. They need their independence aroused by having their cooperation and their personal efforts trained. They must be accustomed to the thought of "going it alone" and of mastering their aches and pains by their own efforts—*nota bene* after all possibly existing physical impairments have been corrected.

The treatment and the management of chronic patients are difficult problems. They require not only patience, enthusiasm and optimism, they engage not only the medical acumen of the physician but they also test his philosophy, his view of living, his psychic powers—"psychic" in its true sense, not in the meaning of the medium.

There are some men's souls that are so thin, so almost destitute of what is the true idea of soul, that, were not the guardian angels so keen-sighted, they would altogether overlook them.—Beecher.

OUR FAVORITE METHODS

In a recent letter, Dr. Edward H. Ochsner says:

"I believe that nearly every practicing physician of large experience has some one little trick that is of considerable value in relieving human discomfort, if not actually saving life. I believe that, if the individual members of the medical profession of this country could be urged each to write down the one not generally known remedy or medical or surgical procedure which he has found to be of the greatest benefit to him, much necessary suffering could be relieved. Thus, for instance, if I were asked to do this, I would briefly describe the use of Unna's Paint in varicose veins, the correct use of which, I find, is known by a very small percent of the physicians of this country. Why not establish a department in your journal, urging not only your subscribers but others to briefly give their favorite trick? I believe it would be valuable to the medical profession and through them to their clientele."

This idea is very excellent, and Doctor Ochsner is elected as the first contributor to the "Column" which will appear whenever any contributions to it are available. It is up to all our subscribers to supply that material.

Furthermore, whatever method is suggested or described as a particularly successful one, is open to discussion. We shall want to hear from others whether they likewise secure good results and derive much satisfaction. That ought to aid in establishing the merit of such pet measures.

MR. BOK'S PEACE PRIZE

Mr. Bok has offered a prize of $100,000 for the best and most practical plan by which war might be prevented in the future. We are laying a little bet with ourselves that many competitors will submit schemes and none will be promising enough to deserve the prize. We assume that Mr. Bok wants something that is both, practical and practicable. He desires a plan the execution of which actually would *ensure* lasting peace. On the other hand, the Nobel prize is awarded for signal services tending to *promote* world peace. Still, there is a marked difference between "promoting" and "ensuring."

Mr. Bok's offer, very naturally, has interested numerous people and has been made the subject of editorial discussion in newspapers and in other publications. *The Chicago Tribune,* for instance, believes that, some day, a prophylactic for war will be employed just as now prophylaxis of smallpox, of tetanus, rabies, diphtheria, typhoid fever, etc., is practiced. The comparison is not inept; for, that is exactly what ails the world: It is sick. This sickness is not a consequence of the war; indeed, the war constituted the acute attack; the prodromal symptoms of which had been observed by thinking people, also by diplomatists, for years. Now, we are passing through a period of protracted convalescence and it will be strange if some lasting and serious sequelæ do not develop. The most threatening consequence, to our mind, is that of communism which seems to be being fostered in Germany and elsewhere through stress of circumstances and, of course, incited by Bolshevick propaganda.

The fact being recognized that the world is ill, it is in one way easy to prescribe a remedy. Even a remedy that might prevent relapses of the acute attack—war. The commonplace remedies, however, that would first occur to politicians, diplomats, and so forth, unfortunately, have been found wanting and altogether incapable of bringing results. The Hague, the League of Nations, even the proposed World Court, are makeshifts that could not be depended upon to prevent disputes from degenerating into actual warfare, if the provocations and the passions engendered by them were sufficiently intense.

As we see it, there is only one remedy that can solve the problem and that actually can

be administered to nations as well as to individuals. It is a remedy that will not be commonly accepted until the millennium, because it is so absurdly simple and so ages-old as to be almost trite.

Since any proposal looking to the establishment of lasting world peace necessarily must deal with "ifs," it may be permissible to formulate our suggestion in the conditional tense.

We are convinced that, IF the remedy that we have in mind were adopted by everybody individually, by every nation collectively, war would actually be of the past. It would be impossible because there would be no occasion for it. That means wars not only between nations but also between individuals. Prisons and law courts would have to be closed; business would progress successfully, actually successfully all around, although there would be no lopsided tremendous fortunes; but, rather, a more equitable and equable distribution of the nations' wealth would result.

The remedy that we propose to make wars between individuals and between nations a thing of the past is:

The general observation of THE GOLDEN RULE

A man may live long, and die at last in ignorance of many truths, which his mind was capable of knowing, and that with certainty.—Locke.

INSULIN

In the abstract department (What Others Are Doing, p. 701), several abstracts of important articles on insulin, the new treatment for diabetes mellitus, will be found. We believe that our readers will be interested in the reports that are presented.

OF INTEREST TO SCHOOL DOCTORS

Dr. Edward Tracy's article entitled "An Effort For the Betterment of Epileptic School Children" inaugurates a policy which is not new but merely an extension to the habit followed for years by CLINICAL MEDICINE to promote whatever may be of service to physicians. The work of the school physician is of the highest possible importance. It is not only curative in that it tends to remove remediable irregularities and lesions that may be found in school children but, what is of even greater importance, it is prophylactic, or preventive, insofar as sincere attempt is made to discover the very first beginnings of ailments and to arrest them.

Doctor Tracy informs us that, at the present time, there is no medium in medical journal literature that devotes particular attention to the interests of the school physician. CLINICAL MEDICINE is happy to open its pages to any articles that may deal more or less directly with the work of the school doctor. The Editors invite contributions on the subject and we wish to remind its readers that, but a few months ago (March issue, p. 191), it published a notable contribution of this kind.

We do not consider the school doctor's practice to constitute a specialty. It is a part of the work of the general practitioner. For that reason, we are convinced that such articles as we have referred to will come suitably and properly within the sphere of CLINICAL MEDICINE.

Our readers will aid us materially, if they will communicate to us such lists of school physicians as they have cognizance of.

SOMETHING ABOUT PAIN

The other day, I had occasion to look up the literature on symptoms that the physician is likely to inquire into, on being consulted by a patient. In Thomson's "CLINICAL MEDICINE" (Phila. Saunders, 1918, page 24), the discussion on pain was found to be so well taken, that I have followed it well to reproduce a portion of it for the benefit of our readers. The points made by Dr. Thomson are excellent. The portions of his discussion that are not copied in the following are just as fine and well worth studying. Thomson says:

"The investigation should begin with a request that the patient show just where the pain is felt most, and where it first began. While he is doing so, the gestures which he uses should be carefully noted, as they often afford truer indications than his language does, because verbal descriptions of pain may be extremely indefinite. As a rule, such gestures are characteristic enough to aid materially in the recognition of the particular variety of pain, if not also of the nature of the affection itself which is present, as the following examples will show.

"When the pain is due to inflammation, if external, as with a joint, the patient will avoid touching the most painful part, or he approaches it in a very respectful way. Thus, with an arthritis his hand passes over the joint in a hovering fashion. If deeper seated, the gestures are often expressive of the varying kinds and distribution of the pain, according to the texture inflamed. Thus, the diffused

soreness of a mucous-membrane inflammation causes the gesture of bronchitis to be made with the whole hand laid on the sternum, and then passed over and across the chest. A similar movement of the hand across the abdomen never means a peritonitis, but a catarrhal intestinal inflammation. With pleurisy, on the other hand, the tips of the straightened fingers are used to indicate the stabbing nature of the pain. In peritonitis, also, the tips of the fingers are used, but brought down with more caution than in pleurisy. In the localized pain of commencing appendicitis, the open hand is used, as with an inflamed joint. In pleurodynia, the whole hand is pressed firmly to the side, to prevent movement of the ribs. In rheumatic fever, the pointing by the patient to the epigastrium or to the xiphoid cartilage, especially if followed by a movement from the precordium upward or into the left arm, is significant of cardiac inflammation. So also the gesture in gastritis, whether acute or chronic, is wholly different from that in colic. Inflammatory pains about the head may have very characteristic gestures. The use of one finger-tip to localize it on the scalp is strongly significant of intracranial syphilis. The finger-tips passing up the side of the face and stopping on the scalp an inch below the sagittal suture indicates pain ascending from a tooth, and should not be mistaken for a trigeminal neuralgia. In conjunctivitis, the hand is laid over the eye. In iritis, the finger is pointed toward it, not touching it, and then passed up the forehead to the inner side of the nose or to the malar process. In glaucoma, the gesture may be reversed, as if the pain were emerging from the orbit. All these gestures differ entirely from those of head-pains not inflammatory. Meningitis, whether cerebral or spinal, is significantly indicated by absence or suppression of gesture, for reasons to be noted further on. The exceptions to this are in some cases of tuberculous meningitis. But the gesture of myelitis, with both hands passed from the back across the abdomen, to describe the cord or band-like sense of constriction, is almost itself pathognomonic.

"On the other hand, the gestures indicating the seat of the greatest pain produced by pressure, as by tumors, abscesses, etc., or cramps, markedly contrast with those of inflammatory pains in showing no apprehension in touching or moving the part. Here the locality indicated at first by the gesture is of importance to note, and whether, on repeating the question, the same place is again started from, because the patient's hand then moves in a fashion expressive of the extension or radiation of the pain from the original focus, although he may describe the pain as equally present at some distance from the spot first pointed out. Hence, his unconsciously repeating the sign with which he commenced is of much significance. Thus, a patient with a growth springing from the lumbar vertebrae always first pressed the point of two fingers deeply into the abdomen below the umbilicus, while the fingers of the other hand moved over the sacrum, where he insisted that his pain chiefly was. A fixed pain in the back, caused by an aneurysm, is often indicated by the extended thumb, and likewise the pain preceding herpes zoster; but no spinal inflammatory pain will elicit such a gesture, nor will the pains of socalled spinal irritation. do so.

"In stretching pains, such as in biliary or renal colic or cramps, as in lead-colic, the contrast to inflammatory pains is shown by the forcible grasp or pressure which the patient makes on the abdomen, while the characteristic radiations of the different varieties may be very plainly represented. Even when the pain has ceased, the gesture descriptive of what he had experienced may be equally conclusive as to their nature.

"The gestures expressive of simple neuralgic pains contrast throughout with those of inflammatory pains. A functional occipital headache is shown by a friction-like movement of the hand from the neck up, sometimes followed by pressure on the eyes with the fingers. So the hands are used with the firmest pressure in temporal or frontal neuralgias, or the patient may tightly tie a handkerchief around the head. This proneness to grasp or to press as well as to move the aching part is characteristic of neuralgic pains everywhere in the body. The gestures are also valuable from their indicating the shifting character of neuralgic pains, enough, at least, to distinguish them from the more fixed pressure-pains of tumors. Special characters of neuralgic pains are frequently described by the gestures, as in the darting pains of tabes.

"Subjective pains, as in hysteria, are very characteristic, in their being more numerous and varied than true objective pains can be, and, secondly, in the inconsistency of the gestures with the often highly wrought description of them by the patient. Both language and the manner of the patient are more like telling the tale of a woeful past experience than of a present reality."

Leading Articles

The Role of Endocrinology in Epilepsy*

By MAXIMILIAN KERN, Chicago

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THE true historian, who could induce us to pause long enough in our serious endeavors to explore untrodden fields in the domain of medicine for the purpose of historical retrospection, would fascinate us with the demonstration that medicine and contemporary thought have marched on side by side.

Beginning with primitive man, he would show us that the entire psychology dominating his life was no more and no less than a composite of fear and brutality. With such limitation to interpret the complex phenomena of life, disease caused fear. Sickness was the visible handiwork of an invisible or, rather, intangible antagonist, who was no part of man's family or clan, and with whom he had to grapple by brutal methods as the only way to rid the sufferer of the intruding bad spirit or creature of similar conception of primitive imagination.

We are led to see that, later, as man rose to a higher mental plane, he sought solace in religion; and, as he looked upon the religious leaders as particularly gifted and supernaturally powerful men, these became his helpers in time of distress. Having the treatment of disease thus forced upon them as part of their priestly functions, and seeking in the nearby flowers, roots or herbs means to produce certain effects on the body, which became known to them through the simple process of observation, and noting and comparing these ever-recurring effects, their experiences constitute the dawn of modern botany and pharmacognosy.

What matters it that it required centuries to free these methods from occult mysticism? A beginning was made, and, once man's brain was enabled to unfold its wings, its halting flights gradually extended boldly and energetically to dimensions limited only by the laws of nature.

Freed from the fear of the supernatural, the desire to increase our knowledge of things mundane pushes aside old barriers; the dreaded dead become mere dead bodies hiding within them the clews to the causes of their extinction of animation, and the beginning of the study of anatomy is the natural result. As the inquisitive observers go on and on, collating facts or endeavoring to explain obscure phenomena, histology, chemistry, physiology, and later pathologic physiology assume definite form; not speculative or philosophical but as concrete observations which eventually assume the dignity of exact naturalistic disciplines virtually in the same category as mathematics.

Endocrinology, the Pinnacle of Medical Advance

Coming to our own times, we can in a few moments recall the unbroken search for the means to cure disease, seeking for remedies not only in the three kingdoms but in the bodies of the sufferers themselves, and we reach the pinnacle of medical advance in the study of the inner secretions of man—endocrinology.

We have only arrived at the threshold, but we have already learned sufficient to justify the least sanguine among us to stand in awe before the portcullis that hides the tremendous possibilities for good.

Unlike many other discoveries in medicine, endocrinology did not take the profession by storm. While certain physiologic and pathologic facts relating to the ductless glands have been known to all of us for a long time, it is but within the past two or three years that the endocrinologic interpretation of many obscure pathologic processes is receiving the serious attention of many conservative thinkers and observers.

While, today, it is regarded as almost too elementary to discuss such subjects as dysthyroidism, dyspituitarism and dysovarianism, it

* Read at the 79th Annual Convention of the A. I. H., Atlantic City, N. J., July 3, 1923.

is a fact that, in the attempts to seek in endocrinology some light on many other obscure and unexplained disease phenomena of the human body, the clinician is still ahead of the laboratory worker.

This, however, is not intended to convey the impression that the laboratory worker is useless to the clinician. Indeed, as will be seen later, the very contrary is the case.

The Riddle of Epilepsy

I deem it a great privilege to be permitted to present for your consideration a brief clinical study of the relationship between endocrinology and a disease justly dreaded by the medical profession and the laity alike—epilepsy.

When one realizes that this peculiar disease represents a spectacle of keen and apparently normal human intellects being virtually crushed for more or less prolonged periods, frequently without warning or tangible cause, then the tragedy, of a brilliant fellow-man writhing with foaming mouth and distorted features, to awaken later somewhat disoriented, is great enough to stimulate the greatest clinicians and laboratory workers to find the means for ridding mankind of this affliction. What wonder that unenlightened mankind saw in such spectacles the proofs of obsessions by evil spirits? We have documentary evidence that, as late as August 15, 1891, in enlightened Germany, the expulsion of the devil from the body of an epileptic boy had been successfully accomplished by a monk who, by the way, solved the etiologic problem in the simplest imaginable manner—the father of the boy, a Catholic, had married a Protestant woman!

That writer who would go to the trouble of publishing in collected form the various beliefs by even modern nations and races, that epilepsy means a struggle with evil spirits, could produce a highly instructive volume. And it is plainly recognizable that, when the disease happens to affect a priest or similar functionary, the sufferer is revered because he struggles with the devil to protect his flock. Such is human credulity!

But, we of the scientific world have stood by virtually impotent; for, neither our general clinicians nor specialistic neurologists have been able, by drugs or other measures, to prevent or cure, nay, even to ameliorate the disease. While the bromides and luminal and similar preparations have a certain soothing effect, we cannot ignore the circumstance that many intellectual patients prefer to suffer from the seizures rather than exist under the constant influence of drugs, and, what is more important still, the long continued use of these drugs is certain to prove harmful to the human economy.

What has science done for epilepsy, and what are the scientific possibilities of the future?

Before proceeding to survey the scientific attainments of the past and to speculate on the scientific possibilities of the future, it is essential that we are all agreed on the more or less accepted conception of epilepsy, to prevent misunderstanding. It is further essential that we eliminate for our particular purpose any form of epilepsy caused by a definitely established pathology, as not falling within the province of this essay, and restrict our discussion to the form commonly known as idiopathic epilepsy.

Causes of Epilepsy

The division of this malady into the classical subforms of *grand mal* and *petit mal* is of no particular moment to us, because they represent merely degrees of intensity of the seizures; but, what is of decided interest to us is, the many causes which have been accused of responsibility for the disease.

We know that the predisposing causes have been studied with care and that alcoholism, syphilis and other constitutional diseases, in the order named, have been accepted as exerting tremendous prenatal influences on the disease. In addition to the hereditary influence, there is scarcely an abnormality of the human body which has not been accused as a "probable" cause of epilepsy, the *modus operandi* being explained by infection or by reflex effect.

Even the views promulgated by Freud and his followers have been applied to explain the etiology of the malady under discussion, and it is interesting to note that these observers are firmly convinced that epilepsy is purely a defense reaction—a conflict between desire and non-realization, which in turn creates a "brain storm," and that the easiest way out of the situation is *via* the characteristic seizure, or so-called "fit."

Related somewhat to this conception is a view of idiopathic epilepsy which very recently has been promulgated as a doctrine of "psychic equivalent" which, as a matter of fact, is tantamount to a state of somnambulism. In this condition, the patient is looked upon as a mere automaton whose consciousness is lost and who performs all kinds of automatic acts, such as walking or driving

and who, at times, exhibits uncontrollable violence, not excepting homicide.

The patient has no recollection of anything between the onset and termination of the attack which may last from a few seconds to days. Any one patient may have all of these forms or they may alternate, some victims suffering nights only and others both, day and night. When patients have as many as two hundred attacks in any one day, the condition assumes the dignity of a "*status epilepticus.*" On the other hand, it is conceded that patients may have but one attack in a lifetime.

The Endocrine Influence

Gowers was probably the first to show, twenty years ago, that the ductless glands play an important role in epilepsy. He called attention to the fact that the majority of cases of epilepsy have their beginning during the period of puberty. This observation has been corroborated by a number of competent workers who have also pointed out that not all the blame should be foisted on the sexual glands, but that other ductless glands, singly or in combination, should be charged with a share of the responsibility. Hypo-, hyper- or dysfunction of the glands; any of them is allegedly capable of producing idiopathic epilepsy.

Time and space forbid entering into detailed accounts of the newer work accomplished in this direction by such men as Beverly R. Tucker, Cushing and others, and it must suffice for the present to show that the result of their work seems to establish that a number of cases of idiopathic epilepsy are caused by hypo- or by hyper-function of the pituitary, thyroid, parathyroid, adrenals, as well as the sexual glands, singly or in combinations.

If this be so, then we are approaching the glorious goal of affording relief, if not permanent cures, to a class of unfortunates for whom medical science has been able, hitherto, to give palliatives only.

The Clinical Test

The sole test is the clinical test. It is a source of great pleasure to me to be able to submit four cases of undoubted idiopathic epilepsy in which I made judicious use of endocrine therapy with gratifying results. I present them as briefly as possible, and add a fifth case of doubtful diagnosis, with therapeutic failure.

Case 1.—Miss S., aged 19. Father a confirmed drunkard, one brother an inmate of a reform school, one sister died from pneumonia when a young child.

The patient was a poor pupil and left grammar school at fifteen, having been unable to graduate. About a year later, she had her first menstrual period and, three days later, suffered her first epileptic seizure, which recurred more or less regularly every few months and lasted a few minutes, being followed by extreme prostration.

On examination, it is noted that the patient is rather pale and waxy in appearance, mammary glands are underdeveloped, hair dry and of doubtful hue, skin dry, nails brittle and cracked. The patient shows a slight hair growth on the face and has a peculiar voice differing from the usual feminine one. She has some pyorrhea alveolaris.

Heart and lungs are normal. The pulse is slow. Temperature subnormal. The laboratory investigation reveals:

Urine—Specific Gravity 1010. Strongly acid. Urea, 2.5. Indican 3 plus. Albumin, faint trace. Sugar, absent.

Sediment shows many pus and squamous epithelial cells, but no casts.

Blood—Wassermann negative.—Blood count shows

Erythrocytes	4,300,000
Leucocytes	9,000
Small Lymphocytes	30%
Large Lymphocytes	10%
Polymorphonuclears	50%
Large mononuclears	6%
Eosinophiles	3%
Transitionals	1%
Hemoglobin	7 %

Case 2.—V. M., aged 6, female. Her father was a pronounced alcoholic who underwent a "cure" to rid himself of the habit, successfully, and who since has risen high in the commercial world. A sister of the mother's is said to have had epilepsy.

Her first seizure occurred when the little patient was about four years old, at four o'clock in the morning, while she was apparently sound asleep. The attacks recurred at first every month, and later with still greater frequency. Each seizure, characterized by outcry, gritting of the teeth, convulsions and clonic contractions, foaming, etc., lasted about fifteen minutes.

Physical examination showed a rapid and irregular heart-beat, tenderness of the abdomen, and a small sella turcica and a shadow around the glenoid process. The urine contained a trace of albumin.

The blood in this case was absolutely normal, except for hemoglobin, which showed only 60%.

This child had been under the care of a pediatrician and neurologist without perceptible benefit.

Case 3.—S. T., aged 32, musician, has a negative family history. He suffered from the usual diseases of childhood and had typhoid fever at the age of sixteen. He claims to have masturbated since childhood and abandoned the habit when eighteen years old.

He complains of general weakness, anorexia, impotentia coeundi, and of seizures which are typical of idiopathic epilepsy of the *grand mal* type. The seizures last about fifteen minutes and have occurred about every two weeks for the past eight years. He claims that the seizures are relatively longer and oftener during the summer months.

Physical examination reveals nothing specially abnormal, except for a very slow pulse, fine tremor of the fingers, and occasionally an involuntary twitching of the facial muscles. There is some tenderness of the abdomen, which may be due to constipation. He claims to urinate only once a day, excepting during the day following the attack, when he urinates freely. Chemical examination of the urine reveals nothing abnormal, and a quantitative examination could not be made for external reasons.

The blood count shows:

Erythrocytes	4,500,000
Leucocytes	7,000
Polymorphonuclears	55%
Small Lymphocytes	25%
Large Lymphocytes	18%
Mononuclears	2%
Eosinophiles and Transitionals	0

Case 4.—Mrs. H. L., aged 29. Formerly a nurse in training (discharged because of her affliction), had her first seizure about six years ago. These seizures, which lasted about half an hour, would recur once daily for two or three months; then she would experience a remission of the attacks for about four months, after which the periodicity of the attacks recurred with regularity in the described manner. In the months during which she suffered from seizures, she ceased to menstruate.

It is interesting in connection with this case to know that, aside from the usual treatment for epilepsy by several physicians, she was treated, for some time previous to the first attack, for exophthalmic goiter.

Her history does not show that any exact method to confirm the diagnosis was used. Nevertheless, a metabolic test made by me showed minus 28, or a distinct hypometabolism, which indicates a hypothyroidism. Whether this was the result of overtreatment for alleged exophthalmic goiter, or whether there never existed such a condition and the hypothyroidism exists independently of any treatment given her years ago, is difficult to establish.

Her blood, urine and general laboratory examination revealed nothing noteworthy in connection with her epilepsy. The radiograph showed a very small and clouded sella turcica.

Case 5.—Mr. N., aged 26, electrician. Family history negative. Personal history, the usual diseases of childhood. Was injured in a football game about eight years ago, which left him with constant headaches for about two years.

A typical epileptic seizure occurred first about three years ago, and these attacks recurred once or twice daily for a month, being followed by several months of freedom, except for headaches, when the attacks recurred.

Physical examination revealed nothing abnormal. The blood findings are:

Erythrocytes	5,000,000
Leucocytes	8,800
Polymorphonuclears	50%
Small Lymphocytes	35%
Large Lymphocytes	15%
Eosinophiles	1%
Transitionals	1%

All the above cases were successfully treated with combinations of thyroid (small doses) pituitary, either anterior or posterior or both lobes, ovarian and orchitic extracts. There can be no doubt whatever, in view of the length of time during which these four patients have been free from any phenomena of epilepsy, that absolute cures have been brought about for the time being, while on purely theoretic grounds is may be held that not sufficient time has elapsed to speak of permanent cures. This after all remains a purely academic problem. The exception, as already stated, is Case 5, in which a sister assured me that organotherapy impressed her as having rendered her brother's condition worse, if anything.

This exception, it must be confessed, carries no clinical lesson to me, because I am not certain whether this case actually is of the idiopathic type; possibly, the trauma played an important role as a causative factor, and this in spite of the fact that the blood count shows a high percentage of mononuclear lymphocytes.

The Importance of Laboratory Work

Something has been said before about the value of laboratory work in connection with endocrinology. This is made particularly evident in the cases given, by a study of the blood findings. It will be noted that, in all cases where differential blood counts are given, there is a high percentage of mononuclear

lymphocytes. In one case, the eosinophiles are increased, which fact is interpreted by Patterson to mean that there is usually an endocrine involvement. According to that author, in conditions not of endocrine origin, a leucocytosis is the rule, while in hyper- and hypothyroidism, as well as in pituitary disturbances, we encounter a mononucleosis.

From the standpoint of the blood findings alone, hypopituitary disturbances may be divided into (a) frank cases with hypereosinophilia and mononucleosis, including both, lymphocytosis and a slight endotheliocytosis; (b) less pronounced cases which show only a sustained mononucleosis of the above type, and (c) borderline cases in which the blood picture follows a sliding scale and has only prognostic significance, if any.

No one better than myself appreciates the sketchy character of the above presentation. It has not been my aim to discuss the treatment of epilepsy with organotherapeutic preparations, even though these were used exclusively in the reported cases, but rather to point to the relation of endocrinology to epilepsy.

It is fully realized that much clinical and laboratory work must be accomplished ere we can speak of light having been shed on this acutely interesting problem. But, as has already been said, the road is open, and it is now our duty to go on and on until we reach the cherished goal.

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An Effort for the Betterment of Epileptic School Children

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So far as the writer is aware, the first attempt to investigate systematically the problems connected with epilepsy in school children is that made in Boston, during the past five years, under the direction of Dr. William H. Devine, Chief of Medical Inspection in the Boston Public Schools. A sketch of this work done in Boston, by the school physicians and school nurses, will interest all concerned with the health of school children.

In 1919, the writer, as a result of two years' special investigation in three Boston school districts, comprising 2768 pupils, found ten children suffering with epilepsy. This gives the proportion of 3½ epileptics per one thousand school children. Dr. Shanahan, Superintendent of the Craig Epileptic Colony, New York State, has stated that there are three epileptics in every thousand individuals, and he regards his estimate as a moderate one.

The result of this investigation led to an attempt to extend the survey of epilepsy into the other school districts. The plan devised for this purpose was as follows: The child with symptoms calling for special investigation was brought for diagnosis to a central clinic. Inasmuch as the school nurses were already, in the course of their duties, bringing children to the Forsyth Dental Infirmary, it was deemed desirable to have the diagnostic clinic in the same place, for economy of time; and the Trustees established the clinic, at Dr. Devine's request. It was thought, at the time when this plan of completing the survey was formulated, that a more efficient plan would be, for the neurologist to examine the child in its school; but such a plan was not then feasible.

This projected survey of epilepsy, in all the school districts, has not been completed. It has the active cooperation of most of the school physicians and nurses. What is most required for its success is the active and intelligent cooperation of the teachers and parents, by bringing to the school doctor's attention those children in his school district who are manifesting symptoms of epilepsy. It is believed that, from now on, this intelligent and active cooperation on the part of parents and teachers can be bespoken. For, as will be shown, the early stage of the disease manifests itself by signs and symptoms, readily detectable by these natural observers of the children. Furthermore, it has been shown

that this early stage of epilepsy is readily curable, even after the onset of convulsive attacks.

Besides this survey of epilepsy in the Boston schools, still under way, considerable research work has been done on this disease during the past five years, in the clinic. It has been established, by careful history-taking in a large number of cases, that there is an incipient stage of the disease, manifested by the occurrence of fainting spells, slight lapses of consciousness, sudden pallors, sudden tremblings, sudden weaknesses, sudden attacks of nausea without any food relation. This incipient stage of epilepsy lasts from six months to two years, before the onset of the first attack of convulsions.

Research work in the clinic has helped to shed light upon the nature of the disease. It is now known and demonstrable that, in epilepsy, the vegetative nervous system (especially the sympathetic branch) is diseased; the diseased condition of the sympathetic fibers being shown by abnormal reactions to measured stimuli and by chronic white spots in the skin (vasoconstriction spots). Research work in the clinic has, furthermore, demonstrated that chronic epileptics with frequent convulsions suffer from a calcium deficiency. This was determined by x-ray investigation, the bones of the chronic epileptic showing an increased permeability to the x-rays, when compared with the bones of a normal control; both, controls and epileptics, being subjected to the identical x-ray exposure. This finding of a calcium deficiency in chronic epilepsy is important for the indication it gives for the treatment of this condition, the indication to give plenty of calcium. And, likewise, this finding points to the importance of forestalling a calcium deficiency in the diet of children—lest the evolution of epilepsy results.

Scientific investigation combined with clinical observations clearly demonstrate that idiopathic epilepsy (i. e., epilepsy not symptomatic of a brain lesion) is a progressive disease with known etiological and pathological factors that are controllable; hence, its ready curability in the incipient stage.

This early stage of epilepsy can be suspected when the symptoms already mentioned are present in the child, and when a child shows chronic white spots on the arms or face (due to active vasoconstriction). Not every white spot found on the skin is of serious import; many such are ephemeral in character and need cause no apprehension. Even in its incipient stage, epilepsy can be accurately diagnosed by the objective signs present that accompany the disease; certain abnormal vasomotor reflexes, and chronic vasoconstriction spots.

When parents and teachers learn of these facts, they will, undoubtedly, eagerly cooperate with the school doctors and nurses, and the betterment of epileptic school children will become as much a matter of course as the betterment of children with dental or other defects. While epilepsy, in number of cases, cannot compete with other defects in school children, yet the gravity of the disease, untreated, more than compensates for this numerical inferiority. No disease is to be more dreaded; the epileptic is always in danger of bodily injury from sudden lapse of consciousness; and the progressive character of the disease, not realized by many, can be appreciated by visiting our Monson State Hospital. Several buildings there are filled with patients in the last stage of the disease, dementia.

The objective evidence of the later research, that has shed important light on the nature of the disease, epilepsy, and which consists of recorded vasomotor reactions, numerous photographs of chronic vasoconstriction spots, x-ray films showing calcium deficiency, is being collated, for presentation to the medical profession, together with numerous cures resulting from treatment based upon the newer knowledge of the disease. A part of this research has already been given to the profession in a paper entitled, "Incipient Epilepsy: Its Diagnosis and Treatment," read at the Boston meeting of the American Medical Association, and published in the *New York Medical Record*, for March 11, 1922.

The Chemistry and the Specific Action of Codliver Oil

By H. ISCOVESCO, Paris, France

THE remarkable action of codliver oil, in rickets, incipient tuberculosis and in conditions formerly known as scrofula and lymphatism, has called forth considerable research. The work done in recent years on the antirachitic Vitamin, by such American scientists as McCollum and Davis, Osborne and Mendel, McArthur and Luckett, Hess and Unger, Funk and Macallum has revived active interest in the problem.

In 1888, two French investigators, Gauthier and Mourgues, succeeded in extracting from codliver oil many organic bases, such as morrhuine, asellin, etc., by treating the oil with alcohol at 35° C. (95° F.) containing 5-percent of oxalic acid, followed by treatment with lime. To these bases, they attributed the specific action of codliver oil.

We have learned since then that the bases of Gauthier and Mourgues do not possess any of the properties attributed to them. The method employed permitted only the extraction of the nitrogenous bases liberated by the chemical change in the oil. It is easy to satisfy oneself, in analyzing oil treated in this manner, that it contains nitrogen and phosphorus; and that, the older and the more changed the oil, the larger the quantities of such bases that can be extracted from it.

I have been occupied with this question since 1908 and my first results were published in January, 1914[1]. Many authors, among whom I cite only Stoltzner, Freudenberg, Wackeret, Beck and (more recently) Zucker, Pappenheimer and Marion Barnet, have attacked this same problem without apparently knowing my work which preceded theirs.

The method very often used has been the saponification method. This is certainly the worst that could be used in this case because it is too coarse. It destroys the oil and all of the unstable and most interesting substances that are to be found in the oil.

The interpretation of results that one gets with codliver oil on animals with experimental rachitis have often proven contradictory, because the variabilities in the character of experimental rachitis are so numerous that one ought to be very cautious before forming conclusions. An excellent résumé on this subject can be found in the monographs of Funk[2] and Ragner Berg[3].

The first question which naturally comes to mind is the following: Is there a fundamental chemical difference between codliver oil and the ordinary pure oils?

To this question I am able to answer categorically, "Yes." And this is how I have been able to demonstrate this fact:

A given quantity of codliver oil is agitated with one-quarter of its volume of absolute alcohol for at least one hour. An emulsion results which is left standing from twelve to twenty-four hours. At the end of this time, there is noted a complete separation into two layers: one formed by the oil and the other formed by the alcohol retaining some substances extracted from the oil in solution. The alcoholic solution is decanted and condensed at a very low temperature until it reaches a syrupy consistency. The syrup extract is treated with an excess of cold acetone. On filtering this, a yellowish white, pulverulent precipitate is left which is dried in vacuo, for, it is very oxidizable. It is then redissolved in chloroform and reprecipitated by acetone. A substance is finally obtained which has all the characteristics of a lipoid, containing phosphorus and nitrogen and no free base.

Now, this fact strikes me as extremely important: codliver oil is the only one of the oils that contains this lipoid. All the pure oils which I studied, applying the same method of extraction, proved this absolutely. With olive oil or others, the alcohol changed the fats into fatty acids entirely.

The method which I have indicated is so simple and definite that it constitutes a rapid means for revealing a commercial falsification of codliver oil.

I have no doubt that the antirachitic substance is nitrogenous Several authors are of the same opinion. I may add that every codliver oil washed in the way described by me differs otherwise from any vegetable oil only in that it contains cholesterin; and surely cholesterin has no antirachitic action whatsoever.

An oil that has been treated in this way no

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*Translated from the French original.

[1]Iscovesco, *C. R. Soc. Biol.*, 10, 17, and 24, January, 1914.

[2]Funk, Die Vitamine (Munchen and Wiesbaden, p. 187-193)

[3]Ragner Berg, Die Vitamine, Hirzel, Leipzig, 1922.

longer contains nitrogen or phosphorus; for, all of the nitrogen and phosphorus contained in it originally (before treatment) is found in the lipoid that has been isolated. Moreover, it has no longer any special therapeutic action. If one saponifies an oil that has been thus completely washed, it will be found that no nonsaponifiable substance can be reclaimed. This can prove only that saponification of the lipoid has taken place; in other words, its destruction. The proof of this is, if the isolated lipoid is saponified, there result some relatively important quantities of nonsaponifiable matter in which is found almost all of the nitrogen contained originally in the oil.

The nonsaponifiable portion is made up of one or more bases which are certainly not choline, but which I have not yet been able to characterize.

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The experiments which I made afterwards on man and animal have proven:

1.—Fresh, pure codliver oil, completely washed with absolute alcohol, is deprived of all antirachitic and therapeutic properties.

2.—The lipoid of codliver oil possesses in maximum and exclusively the specific constituent of the oil.

3.—The nonsaponifiable portion seems to have a certain antirachitic action but in a much inferior way than that of the lipoid.

This lipoid has not only a remarkable action in rickets but, when administered to young growing animals, it causes a very noticeable increase in weight.

It is possible that the nonsaponifiable part, made up of one or more amino bases, is the specific antirachitic agent, but we must admit that this activity is much greater when the amino base is in the lipoid molecule than when it is free. This case is not unique. We know, for example, from the works of Dale[4] and also of R. Hunt[5], that choline is much more toxic in an ether or an ester state than when it is free.

Following these first researches, I naturally wanted to know the source of this lipoid of codliver oil. I found that, instead of forming spontaneously in the oil, it existed in the liver of the cod already formed, and that it was carried over into the oil during the process of extracting the oil from the liver.

I was led thus to study the lipoids of codliver oil first; later those of the other animals.

I isolated by the general method, described in the C. R. *de la Société de Biologie*, a lipoid which is found in great quantities in the liver of the cod and in smaller quantities, but absolutely constantly, in the livers of all the other animals that I studied (pig, sheep, horse, bull). This lipoid is absolutely identical with that of codliver oil.

In fact, it has the same appearance, the same consistency. The point of fusion is identical (70° Centigrade). Both are soluble in absolute alcohol, in chloroform, in ether, and insoluble in acetone; so that a very complete purification is possible.

The liver lipoid, like the lipoid of codliver oil, is a diamidomonophosphatid.

Dr. Westerman, who was good enough to make a comparative chemical analysis of the two lipoids, found some extremely close figures in both lipoids for carbon, hydrogen, nitrogen and phosphorus. The liver lipoid has exactly the same biologic properties as the codliver oil. Used especially in rickets, it gives more rapid results than codliver oil in comparatively larger doses.

The use of the liver lipoid has become greatly extended, recently. It is used more and more in rickets, lymphatism, incipient tuberculosis, and in definite undernourishment of children suffering from insufficient or faulty alimentation. These conditions are very prevalent in certain classes of the population of the larger cities.

The administration of the liver lipoid causes a very rapid increase in weight and an amelioration in growth.

In adults who are in the first stages of pulmonary tuberculosis, many doctors have observed some important improvement in the general condition during the first month of treatment.

The liver lipoid may be administered hypodermically in doses of from 2 to 4 centigrams in an oily solution; or orally. This last method of administering is preferable and gives the best results, because the doses given in this manner are larger (from 15 to 20 centigrams a day).

We know from the researches of Salkowski[6] that the lipoids administered by mouth pass the digestive tract without change and are absorbed.

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[4]Dale *Jour. of Pharm. and Exper. Therapy*, 1914, V. VI, p. 147.

[5]R. Hunt, *ibid.*, V. VII, p. 301.

[6]Salkowski, *Bioch. Zeitschr.*, V. LI, p. R. P. U.

The Advantages of Sulpharsenol in the Treatment of Syphilis

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"I WILL visit the sins of the fathers upon the children unto the third and fourth generation of them that hate me."

Ever since I came to know much about disease, I have thought that this part of the second commandment was a direct reference to syphilis in the Jewish race of the period. We never can know the birth-place or age of this greatest of scourges of the human race.

Professor Ide, of Louvain, closes the chapter on syphilis in his recent treatise on therapeutics, with these words:

"Soon, neosalvarsan will be replaced by substances that are more active, less toxic and more easily administered."

In CLINICAL MEDICINE for September, 1917, I wrote an exhaustive review of Luargol in the treatment of syphilis, with which remedy I was, and still am, favorably impressed; Sulpharsenol is, equally, a modification of "606," but has the advantage of permitting subcutaneous or intramuscular in place of intravenous administration.

This product was created and is prepared by Dr. Lehnhoff-Wyld, of Paris, and has been very thoroughly tried out in the wards of St. Louis and St. Lazare Hospitals (Paris), by Drs. Levy-Bing, Jerbay, Duraux, Emery, Marcel Pinard and Pierre Giraud and others who will later be quoted, and would seem to have won for itself the reputation of a step in advance in the treatment of syphilis.

The very complete study published by the discoverer[1] and the first experimenters will make it unnecessary here to go into a detailed description of its chemical composition, which is represented by the formula C_{12} H_{11} AS_2 CH_2 OSO_2 Na.

Sulpharsenol is a sodium salt of monomethyl-sulphate with the base of arsphenamine. It approaches to "914" (Luargol) by its lateral chain, but differs in that it contains an atom more of oxygen.

In spite of the fact that the percentage of arsenic in sulpharsenol is practically the same as "914," it yet appears to be twice as active in equal doses. The rabbit shows the following comparative tolerance, per kilogram weight, for the remedies named; arsphenamine, 7 cg.; neoarsphenamine, 8 cg.; galyl, 10 cg.; luargol, 10 cg.; sulpharsenol, 20 cg. It stability is much greater than that of either arsphenamine or luargol.

The tremendous percentage of increase in syphilis, that has been left us as one of the consequences of the war, makes it extremely necessary that we should have a remedy that can be readily applied by every practician without the need of special training and without the fear of any disquieting consequences. Sulpharsenol would seem to supply this requirement. The only precautions necessary are, that the hypodermic injections must be made antiseptically, which is necessary in the employment of any hypodermic injection, and that the solution should be injected into the deep muscular tissue of the gluteus maximus. It cannot be denied that, even for an experienced practitioner, intravenous injections present, at times, annoying difficulties, especially with women of rather full habit and very fine, imperceptible veins; also in unmanageable children; it is, therefore, of tremendous advantage to have a satisfactory remedy that can be injected directly into the muscular tissue.

The principal aim in all the researches made in intramuscular injections is, to find a drug combination that is as active and as painless as the method of intravenous injections, without having either its drawbacks or its dangers.

The drawbacks, although of minor importance, are still very real and cannot be overlooked. The intravenous injection is a small operation and comparatively simple in the hands of an experienced operator, but there is a certain knack attached to the procedure which necessitates a considerable practice to acquire. The operator who is not familiarly accustomed to the procedure feels always a sense of hesitation, although it may not be apparent. Another drawback, which is always repugnant to the spectator who is almost invariably present in private practice, and equally repugnant to many practicians, is that, if the puncturing of the vein is properly done, it is performed with the open needle in the hand, from the end of which there is a slight flow of blood. This is distasteful and to many people disquieting.

I am satisfied that the arsenical remedies will be much more generally used when it is

possible to administer them by subcutaneous and intramuscular injections.

The history of accidents that have attended upon the intravenous injection of the arsenical remedies (shock, nitritoid crises, anaphylactoid troubles), is too well known to require description here. The fact that any of these accidents are so rarely encountered, on employing the subcutaneous or intramuscular routes, constitutes one of the most valuable and attractive factors in this form of medication. From a therapeutic standpoint, one of the most favorable points is, that the remedy is absorbed and eliminated slowly, giving a more continued action; which is particularly important in the old or retarded cases.

The published reports on sulpharsenol indicate that it has no contraindications and that it can be used at every stage and in every form of the disease.

Preparation of the Solution

Sulpharsenol is dissolved in distilled and sterilized water in the proportion of 0.06 Gm. in 1 Cc. of water, and this solution can be made directly in the ampule, after opening, when the dose to be injected is not greater than 0.24 Gm. When the dose to be injected is larger and the patient is perfectly tolerant, the sulpharsphenol is dissolved in the proportion of 0.12 Gm. in 1 Cc. of water.

It dissolves immediately if the mixture be slightly shaken. This can be done without danger as the product is practically unalterable by air.

Localization of the Injection

The solution should be injected deep in the buttock muscles, care being taken to avoid the course of the sciatic nerve.

The Doses Given

The rule of the treatment is as follows: First injection, 0.06 Gm., followed by 0.12 Gm., 0.18 Gm., 0.24 Gm., 0.30 Gm., 0.36 Gm., 0.42 Gm., 0.48 Gm. There should be two or three days' interval between the doses and the individual injection should not be pushed beyond the quantity of the last dose named, the object being a continuous action of the remedy to the limit of tolerance of the patient.

Levy-Bing believes that the size of the dose is subordinate to the frequency of injections which, in these graded doses, should never be less frequent than three days' interval; in most cases, a continuation of the treatment with this interval at the maximum of 0.30 Gm. will be found to give satisfactory results.

In some patients, the injections can be given every two days and, in some, a greater number of injections is required than in others.

The practitioner has in this remedy a pliable method at his disposal which he may modify as he deems necessary and which can be adapted to the most divergent of cases.

Tolerance

Local: In most cases, the injection is followed by no pain. There is, however, in some patients, especially in men with close and firm muscular tissue, a feeling of heaviness, sometimes rather marked and sometimes accompanied by slight muscular pain. These manifestations rarely last more than twenty-four to forty-eight hours.

General: So far, the authors have never observed any general trouble, either immediate or delayed, following the intramuscular injection.

Some patients who, after the intravenous injections of this remedy, manifested a degree of reaction that could even equal a nitritoid crisis have received stronger doses by intramuscular injection without any inconvenience whatsoever.

Therapeutic Results

Levy-Bing and Gerby have made a report of two hundred cases from which I select the following.

Case 1. Primary syphilis. Male patient, 28. December 2, 1917. Chancre of the glans, marked induration, five days old, slight right inguinal adenopathy. The ultramicroscopical examination showed treponemas in abundance.

Bordet-Wassermann and Hecht reactions completely negative.

December 2, intramuscular injection, 0.06 Gm. sulpharsenol in 1 Cc. of water.

December 3,	0.12 Gm.	in same manner.
December 5,	0.18	"
December 7,	0.24	"
December 10,	0.30	"
December 13,	0.36	"
December 17,	0.42	"
December 21,	0.30	"
December 26,	0.30	"
January 5,	0.30	"

The cicatrization of the chancre was complete by December 8.

The serorcaction remained negative at all times.

Case 2. Primary syphilis. Male patient, 32. December 4, with a chancre, at the meatus, of eleven days' duration. Ultramicroscopic examination positive.

Bordet-Wassermann and Hecht reactions also positive.

The patient received, from December 5 to January 5, eleven intramuscular injections of sulpharsenol as follows:

December 5,	0.06 Gm.
December 6,	0.12 "
December 8,	0.18 "
December 10,	0.24 "
December 13,	0.30 "
December 16,	0.36 "

December	19,	0.36 "
December	23,	0.36 "
December	27,	0.30 "
December	30,	0.30 "
January	5,	0.30 "

Cicatrization of the chancre was complete by December 14th.

On January 5, the Bordet-Wassermann and Hecht reactions were still slightly positive.

Case 3. Woman, 21. Syphilis about six months old, unnoticed, untreated. December 1, had a generalized cutaneous rash, papular and papulosquamous syphilis on the upper and lower limbs. Erosive vulvar syphilides; mucous patches in the mouth and pharynx. Bordet-Wassermann and Hecht reactions positive.

The patient received the following injections of sulpharsenol:

December	3,	0.06 Gm.
"	6,	0.12 "
"	9,	0.18 "
"	13,	0.30 "
"	17,	0.36 "
"	22,	0.42 "
"	25,	0.48 "
"	30,	0.30 "

On December 10, the lesions had almost disappeared. There remained two or three cutaneous lesions which had been very much infiltrated.

December 17, all signs had disappeared. December 30, Bordet-Wassermann and Hecht reactions were still positive.

Case 4. Woman, 32. Syphilis about seven months old. Was treated for the first time in June 1919. Received four intravenous injections of novarsenobenzol.

In October 1919, vulvar and buccal syphilides, for which the patient received two intravenous injections of novarsenobenzol. Never had any other treatment. Upon examination, on December 5, 1919, exhibits labial and lingual mucous patches.

Bordet-Wassermann and Hecht reactions, completely positive. The patient received the following injections of sulpharsenol:

December	5,	0.12 Gm.
December	6,	0.18 "
December	9,	0.30 "
December	12,	0.36 "
December	15,	0.42 "
December	20,	0.48 "
December	24,	0.42 "
December	29,	0.48 "

All signs disappeared on December 10th.

January 6th, Bordet-Wassermann H. 5. Hecht completely positive.

Case 5. Male patient 35. Syphilis eleven years ago. Treated fairly regularly during the first three years, with injections of grey oil. No treatment during the four following years. In 1915, he received, in a military hospital, four intravenous injections of novarsenobenzol for a glossitis present for the past five or six months. Since then, has taken protoiodide pills for one month. Examination, November 15, 1919, buccal leucoplakia, glossitis slightly ulcerating, particularly on the back and on the edge of the tongue.

Bordet-Wassermann and Hecht completely positive.

November 27, intravenous injection of 0.06 Gm. of sulpharsenol.

November 29, intravenous injection of 0.18 Gm. which provoked at once flushes of heat with a sense of suffocation, which lasted only a few seconds. The patient was changed at once to the intramuscular injection of the remedy.

December	3,	0.12 Gm.
"	6,	0.18 "
"	9,	0.24 "
"	13,	0.30 "
"	15,	0.30 "
"	19,	0.36 "
"	24,	0.36 "
"	28,	0.42 "

The patient, who tolerated the intravenous injections badly, showed no reaction whatever to the intramuscular injections which led to a complete cicatrization of the buccal ulcerations. A slight leucoplakia only remains.

December 28th, Bordet-Wassermann and Hecht reactions still remain positive.

Doctors Emery and Morin[3] have made 250 subcutaneous injections of sulpharsenol and claim that this method is devoid of pain and more effective than the intramuscular injections. In two cases, they observed a delayed reaction similar to a nitritoid crisis, but these cases had exhibited more severe crises following the intravenous injection of the remedy. They concluded, therefore, that the subcutaneous injection was superior to the intravenous, and we cannot but regret that these authors did not proceed one step further and test the sensibility of these two patients by the intramuscular injection.

Dr. Bernard[3], of Brussels, gives the history of 6 cases in which he administered as much as a total of 10.92 Gm. of sulpharsenol in 13 injections, in a period of 29 days. This certainly shows a tolerance for the remedy that surpasses that for any other preparations of arsenic. Dr. Tant, in his clinic, secured very favorable results from sulpharsenol in blenorrhagic rheumatism. Dr. Dureoux[4] has had some remarkable results from the remedy in orchitis and other blenorrhagic complications. Doctors Bernard and Yearnaux believed that sulpharsenol can be used to great advantage in the tropical diseases; they relate the case of an Algerian soldier who presented himself with a chancre and who, at the same time, was suffering from bi-weekly attacks of intermittent fever, which entirely ceased after receiving his second injection of sulpharsenol.

Thereupon, Doctor Bernard asked a confrère, Doctor Despré, head of the Kikande Matadi Hospital (Belgian Congo) to try this remedy on the patients in his Hospital, who were suf-

fering from the different tropical maladies, malaria, pian (yaws), tropical ulcer, sleeping sickness, etc. He has received word that an interesting series of experiments is in progress and hopes to publish them later.

At the same time, he addressed a letter to Doctor Houssian of Kinshasa (Belgian Congo) in the same terms, and I quote from his article the following: "As much from a desire to give my distinguished confrère priority, as from its scientific interest, I quote from a letter which he addressed to me, dated May 24, 1920: 'I tried the sulpharsenol, as you requested me to do, in different cases of tropical maladies, and the following is a résumé of the results obtained:

"'Pian (yaws) and phagadenic ulcers; results were equal to those with neo-philarid persten. The first case was that of a negro. Eight hours after the injection, the filaria had disappeared from the peripheral circulation, which makes me believe that the remedy is interesting and worthy of careful study.

"'Treponemiasis: In one case, the trepanosomes had disappeared by the following day, which is the same as the result secured with other arsenical preparations.

"'Lepra: Result, negative.

"'But, there is one feature that interests me; namely, sulpharsenol cures syphilis in from ten to fourteen days. This is clear and evident. I have tried it in twelve negroes and I have been astounded at the rapid cure.'"

Dr. F. Carminow Doble[6] is favorably impressed with his use of sulpharsenol in syphilis and particularly in the treatment of complications in gonorrhea. He says: "I have tried this remedy in most of the complications that are met with; arthritis, rheumatism, hyperkeratosis, and here the results were remarkably good. But, the effects in epididymitis were extraordinary. I have treated nearly 300 cases of this complication with sulpharsenol and have never failed to stop the pain in a few days, the average time in bed being from 4 to 5 days. Patients previously in great pain, who had to be given morphine, slept peacefully a few hours after the first injection of sulpharsenol. The amount required to cure varied in different cases, but there were no relapses."

Dr. Chateilier[9] experimented with this remedy in the dermatoses.

Levy-Weissmann[7], Stern and Ridler[8], Levy-Bing and Duroeus[9] have had favorable results with this remedy in gonorrheal complications.

The clinical department in which sulpharsenol has met with the greatest favor is in the treatment of the new-born and of nursing women, and here the success of its application seems to be universal.

Dr. G. Blechmann[10] sent out a questionnaire relative to hereditary syphilis, embodying the following questions:

1.—Have you found an increase in hereditary syphilis since the war?

2.—Do you think that the cases are more numerous or that more careful inquiry can account for the increase?

3.—What signs have you studied in particular which you find insufficiently described or ignored in the classics? Do you remain faithful to mercury in private as well as in hospital practice? How do you treat hereditary syphilis and its inactive manifestations?

3b.—Do you employ arsenic in private practice? In hospital? In what form? By what route?

3c.—Do you favor a combined treatment, such as Iodide-Bismuth?

4.—In the absence of new symptoms, for what length of time do you persist in the treatment?

5.—What value do you attach to laboratory research as a means of diagnosis in the newborn?

6.—Have your methods of treatment given you satisfaction in regard to curative results?

7.—What is your attitude toward the parents who ignore the fact that they have transmitted syphilis to their children?

The replies from several doctors are published and make profoundly interesting reading, but the limitations of this paper would not permit their reproduction. All these physicians, however, employ a combined treatment containing mercury and all find sulpharsenol the most convenient and fully satisfactory complemental preparation of arsenic.

Drs. Pinard and Pierre Giraud[11] describe their successful employment of sulpharsenol in the new-born. They give still further experiences in the use of the remedy in nursing women and infants.[12]

Drs. G. Paul Boncour and J. Clement[13] are equally enthusiastic respecting the ease of application and the favorable results obtained with sulpharsenol in nursing women and the new-born.

The employment of the arsenobenzols in the new-born has heretofore been attended with risks that make its use in hospital practice of rare occurrence and mercurial inunctions have formed the routine practice. To find in sulpharsenol an arsenical combination that can be employed in these cases subcutaneously or

intramuscularly, within certain limits without fear, adds a most valuable agent to our therapeutics, which is readily applied in the routine of an experienced, capable nurse, with appreciated relief to the busy, overburdened medical head of the hospital service.

54 Bd. Victor Hugo, Nice, France.

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Some Observations on Bone Surgery

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SURVEYING the whole field of medicine and surgery, there is no lot, tract or parcel (to complete the figure) that yields a richer return in good and, oftentimes, brilliant results for painstaking thought, study and an absolutely aseptic technic than that of bone surgery.

Now, you gentlemen who live in the smaller towns (and, permit me to remark, *en passant*, that that is where the very best all-round doctors come from) must not become alarmed or indifferent because you may think this is to be a highly technical paper, as entirely too many are, for the busy, everyday practician, or one that will prove of no practical importance to you. For, if this paper is to be of any value whatever or if there be any object or design in its preparation, it is you that are its object. Indeed, its design was, and is, to be of aid and assistance in meeting some of the problems that confront many of you from day to day in your life work.

The cases selected for presentation on this occasion have all occurred in my own practice and, while all of you, perhaps, have not had as rich an experience in emergency surgery, yet the cases selected, or similar ones, may occur and doubtless have occurred in the practice of each of you. These data represent an epitome of some of the more unique and interesting cases that have occurred in a practice of some twenty-six years.

Plastic Surgery a Quarter-Century Ago

About twenty-five years ago, one winter afternoon, there was hauled to my office, in a wagon, a little negro bootblack, some ten or eleven years old, who had what appeared, on a cursory examination, a gunshot wound of the left arm of so serious a nature as to necessitate a shoulder-joint amputation. He had been out hunting and, on pulling his gun (a double-barrelled one) through a wire fence, the hammers or triggers were caught, the gun was discharged and tore away the biceps and coraco-brachialis muscles, fracturing the humerus in an oblique manner and practically exposing both, the elbow and shoulder joints.

The little negro had been nearly exsanguinated before intelligent assistance reached him and, after the arm had been corded, he was placed in a wagon and rushed to my office with all the speed that the transportation facilities of that time warranted.

I immediately put my amputating tools to sterilize and summoned a brother physician to administer an anesthetic, preparatory to a shoulder-joint amputation.

As the little fellow was quite weak from shock and hemorrhage, I gave him about a pint and a half of normal saline solution, subcutaneously, placed him on the table and took off the rags preparatory to cleaning the field for amputation. To my astonishment, I found that, in some miraculous manner, the brachial artery and median nerve had both escaped, although completely denuded of all surrounding soft tissue for some five or six inches. There they were, fairly jumping at me. To convince myself that I was seeing things straight, I reached down for the radial pulse. It was there; so, I announced to the great crowd of bystanders (who always congregate at a doctor's office in a small town whenever some severe emergency case shows up) that there would be no amputation and I would endeavor to save the little boy's arm.

This announcement was received with great disgust by the bystanders and some Civil War Veterans were outspoken in their views. Indeed, as I was quite a youthful physician and appeared still younger, they did not hesitate

to advance the opinion (in my hearing, mind you) that the young doctor was a fool; that such an arm could not be saved and that they had seen the old army surgeons cut off hundreds of arms not nearly as bad as that one.

I cleaned, dressed and splinted the arm as carefully and tried as manfully as ever one could, you may be sure, to hold those fragments in apposition. But, because of no outer and inner support, all the soft tissues about the fracture having been shot away, and because of the dragging of the unopposed triceps, apposition was impossible. I would find the sharp end of the lower fragment sticking out between the artery and nerve or, again, the sharp end actually pushing out the brachial artery alone. I often thought, in those harrowing days, that the little negro's brachial artery bore a charmed life and that the old "vets" had not been so far wrong, after all, in their estimate of my mental status.

I do not know whether my silver plates antedate those of Mr. Lane, or not; I have never cared. However, the idea was purely original with me, and I hold in my hand, gentlemen, the auxiliary means of regeneration and salvation (I believe the ministers hold that regeneration must always precede salvation) of that little negro's arm. Today, if he still be living at the age of thirty-six years, he has functionally as good and useful an arm as any of us.

Briefly: I went to a jeweler friend, selected two thick, heavy, silver finger-rings (the kind he sold to the negroes), and had him cut and straighten them, setting screw holes in each end. Having no suitable screws, I robbed mine and a friend's telephone boxes of the little screws that held in place the keyplates, got a dentist's foot-engine, selected three burrs of suitable size, sterilized them, drilled the holes for my screws, set my plates, held the fragments in firm and perfect apposition and, after about 8 months of daily care (for, of course, I got a low-grade infection in a wound so large, where hygienic surroundings were the very worst possible), the expenditure of some two hundred or more dollars for dressings, etc., and thousands of dollars' worth of practice and experience on my part, the little boy emerged with a perfectly sound, good arm. And, may I say it, ever so slyly, perhaps; old Bledsoe was not *such* a fool after all.

It is true, gentlemen, that the direct financial return in this case was negligible. I allowed the little fellow to pay me fifty dollars out of the nickels and dimes he earned blacking boots in a barber shop; which he did most cheerfully and willingly. But, my compensation arose, gentlemen, in a sort of "chokey" feeling about the throat and a mistiness about the eyes, when Charlie would come round, years after, a man grown, exhibit his good left arm and tell me about his good job in a garage, his wife and three little nigger-babies; and when he said, "I'm always telling dem little niggers what a good doctor Dr. Bludsaw is."

Another Gunshot Wound

Some twenty or more years ago, I was called with my friend and confrère, Dr. R. L. Wedemeyer, now of Waco, Texas, into an adjoining county to see a case of gun-shot wound; and a most ghastly wound it was, indeed. The chin and submaxillary, carrying some eight or ten teeth, were completely shot away, the tip of the tongue was lacerated, split and pierced in several places, and there were twigs, teeth, shattered bone, shot and gun-wadding driven beneath the mucous membrane of the tongue and upon the esophagus, while skin and soft tissues of the mouth were hanging in many shreds and flaps. The first thought that obtruded itself upon me, when I saw the poor lad, was, that this mouth resembled a large catfish with its fins, gills and feelers.

The case was certainly a poser to us both. It *looked* hopeless and Dr. Wedemeyer was frankly of the opinion that the poor lad would die, shortly, of a cervical cellulitis.

After cleaning out teeth, twigs, shattered bone, shot and gun-wadding and placing sutures in the tongue and around about the mouth in the most promising looking shreds and flaps, I told Dr. Wedemeyer that, if he would meet me there, the next morning, early, prepared to give an anesthetic, I would think over the case that afternoon and night and we would see what we could do toward plastic and reconstructive work.

The problems in this case were manifold, as you will readily see, but the chief one was, to supply a scaffold of sufficient strength and permanency to maintain the fragments of the mandible in the same plane, which plane and position they would in no wise assume, because of some inequality in the strength of the buccinators and masseters of the opposing sides, causing the bone-ends to rise and fall without any apparent synchronism whatever, on voluntary effort; and, further, to furnish a guide along which the new bone might propel itself during its reconstruction, in the happy event that such a thing were possible in

the presence of a constantly drooling saliva.

As before, I had recourse to my jeweler friend and had him construct this plate which I now hold in my hand, by means of which the mandible was reunited, giving the boy, now a man of thirty-seven years, a functionally perfect mouth. When I last saw him, about a year after I removed the plate, the cosmetic effect of the mouth was, really, not so bad.

Permit me to observe that, in this case, I secured an ordinary, every-day gimlet from a hardware store with which to make my screw-holes, and ruined a perfectly good bone chisel in driving the screws home. With the trimming of a shred and a flap, hither and yon, a little cutting and loosening of the skin and deeper soft tissues, here and there, in different angles and attitudes about the mouth, I fashioned and reconstructed the best mouth possible for this lad with the very scanty material I had at my disposal. Indeed, I was really and truly astonished that it turned out as well as it did, the whole operative procedure progressing beyond my fondest expectation.

I met my friend and confrère, Dr. Wedemeyer, about a year ago, at his brother's sanatorium, for the first time in fourteen or fifteen years, and about the first remark he made, after the usual salutations had been exchanged was, that it was such a pity those fool people were so trifling as not to have allowed me to do a little plastic work on the boy's mouth after all the parts had thoroughly healed; that the general result in this case was positively brilliant; that, on account of the density of the scar tissue about the left lower angle of the mouth, there was some distortion and a slight dribbling of saliva when the boy ate. He asked if those people ever paid me anything for the work. I replied that I had never received one nickel for it but, then, they hadn't had time; the work had only been done twenty years.

As to Remuneration

I have done a number of head or brain-surgery cases; but it is a significant fact that those which I consider about the best operative work have been done gratis. For the last seven cases of brain surgery performed, I recall having received exactly $14.50 and, from the standpoint of end-results, they terminated brilliantly. One, a depressed fracture with hernia cerebri, was done in a negro shack with a locomotive fireman giving the anesthetic, and my instruments were boiled in an empty tomato can. After recovery, the negro was so grateful that he paid me the sum of $4.50. Then he seemingly disappeared off the face of the earth. Then came a series of five cases: bums, hoboes, negroes, etc.; three done in my office and two in negro cabins and for which I did not receive a thank you. The last, a depressed fracture with a clot beneath the dura, was done in a cabin, about midnight, with the aid of a light furnished by a small brass lamp. These negroes were unusually appreciative and paid me $10.00 on the spot. That makes a total of $14.50 for seven cases, or two dollars seven and one-seventh cents a case. But then, you know, a doctor makes his money mighty easy.

Since typing the above I was fortunate enough to run into this boy and have brought him along. You see the scar of osteoplastic resection.

A Difficult Fracture

I shall mention a fracture case that proved of unusual interest to me, by reason of the fact that it was a diagnostic puzzle and remained so for some four or five months; or, to be exact, until I operated on the patient. This case occurred in a period of my professional career when I was seeing fractures almost daily, having handled hundreds of cases up to this time and, as I believed, having seen and treated about every variety of fracture known to man.

Two young negro women, mistresses of white men about town, had rented a livery horse and were proceeding to joyride, man-fashion, one moon-light night, about the streets of town. They had a considerable cargo of beer or other liquid delicacies aboard and were quite boisterous and hilarious. It occurred to some of the railroad boys that here was a fine opportunity for some sport. Accordingly, they secured some "high-life" from a drug store and bestowed a liberal portion upon the hips, flanks and hocks of the ambling palfrey, whereupon this staid and sedate livery-horse became immediately rejuvenated as though he were the recipient of recently grafted monkey-glands, and developed an ambition to scale brick walls and climb telephone poles; with the result that the hindmost wench was precipitated, with more or less violence, upon a concrete sidewalk, sustaining a fracture of the middle of the left femur.

She was brought to my office accompanied by a large contingent of negro men and, after placing her upon a lounge, it was at once apparent that there was a shortening of three or more inches in the left leg; there was very

slight crepitation motion between upper and lower fragments, being limited to a rocking motion on applying force or lifting upper and lower portions of the thigh in different planes, and very little pain seemingly, which I attributed to intoxication.

After assembling suitable splints, I addressed myself toward overcoming the shortening. I worked diligently for some time, but the shortening remained, despite my efforts; whereupon I enlisted the services of about a half dozen negro men, two holding the shoulders, one the upper part of the left thigh, and three working in relays on the leg, while I manipulated about the site of the fracture. But, our combined efforts were unavailing in overcoming the shortening.

The next morning, I proceeded to Hattie's quarters, accompanied by a half dozen burly assistants and a bottle of chloroform, confident that I would be able to effect reduction and overcome shortening. She was profoundly anesthetized, and some five or six men, under my direction, worked diligently, for about thirty-five or forty minutes, in a vain effort to overcome the shortening. The interval between the date of fracture and operation was spent, chiefly, by the woman in bed and by me in employing all the stunts made and provided by the various authorities, looking toward bony union. I gave tonics, antisyphilitics, hammered, pulled and hauled at various times and seasons, when I was not too busy with something else. But, it was all no use; as at first, I had no callus, a rocking motion and a shortening of three or four inches.

You may think that this case could have been cleared up by x-ray, in this modern day and time; but, I will answer that the true condition would not, in my opinion, have been revealed by the best of films and plates of this day, as you shall presently see when I tell you what was revealed when I cut down on it. I had a fine old Van Houten Tenbrooke Static Machine which would really do good fluoroscopic work on bones, bullets, etc., any time I had the time and patience to get the old hussy dry enough to light up my tube. I could see the site of fracture in this case, viz.: I could see several pieces of detached bone along the outer aspect of the femur, and a thinning of the shadow at this point; but, the bone shadow, as a whole, was continuous throughout, symmetrical, with no solution of continuity whatever.

There was something decidedly "phony" about this case, and it completely "got my goat" if you will permit me a slang expression. So, I boiled up my tools, one morning, got my partner, Dr. Moses, went down to Hattie's shack and proceeded to get into her leg in a jiffy, and here is what I found: femur fractured obliquely, several fragments of bone completely detached, along outer aspect of femur, a cone-shaped upper fragment, with apex of cone pointing downward, and that jammed and wedged into the medullary canal below so firmly that the devil himself could not have budged it. I couldn't do it with my hammer, chisels and levers, and plenty of assistants to manipulate the leg. I had to saw off the upper fragment completely, retract the upper bone from the field and then, only, was I able to force the cone-shaped fragment from the medullary canal with my chisel, after having chiseled away a small wedged-shaped portion. Then I sawed off a small portion of the lower fragment, to give me a square joint, as the carpenters do; and, in a reasonable time, Hattie had a good useful leg, although it was about five inches shorter than its fellow. But, to cap it all, gentlemen, her white lover refused to pay me; for he said, "Doc you shore done a bum job on pore ole Hattie's leg, it is five inches shorter than the other one and she has to limp." In just about two weeks time, he married a white woman; so, poor old Hattie and I both got left. Can you beat it?

Fracture Pointers

Now, gentlemen, I desire to give you some fracture "dope." I honestly believe in it, for I practice it, and you may take it or leave it, as your judgment warrants. I am going to tell you some things that you will not believe and that, perhaps, will really provoke you, but they may make you think a little. If so, I shall be most happy. I shall feel amply repaid for my visit to Rockdale in the role of essayist before this body of scientific men.

Avoid plaster of Paris in your fracture work, unless you fashion splints from it or use it in your joint cases, after some weeks have elapsed and you desire support for ambulatory cases. You can fit a joint more snugly and give better support with this material than with at most any other kind of appliance, but, *never circle a limb with it, and you will be happy.*

I have two fracture cases of which I am not particularly proud (in a total of about five hundred cases) and in both of which I depended upon the fluoroscope (without plates) and plaster of Paris; one a Pott's and the other a Colles'. Both patients have good, use-

ful limbs with perfect function; yet, while I have always admired the curved lines of grace in young females, I would not voluntarily select the left forearm in which to place a curve, had I the making.

I never depend upon the fluoroscope (please catch the word fluoroscope) unsupported by a film or plate, and I almost never use plaster of Paris except as outlined; for, it causes paralysis, atrophy of muscles, nerve irritation, stiffness about the joints, with great prolongation of the period of restoration to normal. Chiefly, it prevents inspection of parts, which I have fund the *conditio sine qua non* in all good fracture work.

Have your splints very loose and quite long; immobilize the whole limb. That is the only virtue of any appliance. Any time you have your casts, splints or other appliances tight enough to jam and hold your bones in apposition, you are doing more harm than good. It is usually muscular traction that prevents coaptation and, pray, tell me, what good your bone will do if you squeeze your muscles to death?

I feel that I am safe in saying that I have treated a hundred, or more, fractures with a little card-board and a loose bandage or with sand-bags and weights, with never a cast or splint; and I have never even been threatened with a malpractice suit.

In cases of great trauma to soft parts, if there be much muscular dragging, I rarely ever use any other support, for two weeks, than sand-bags and weights. I learned better many years ago.

In fractures by direct violence, with great extravasation of blood, cleanse your skin with scrupulous care, approach your accumulation, withdrawing blood with a long needle of large caliber very obliquely and from the most dependant position possible. Then, you will not, likely, have to operate later for non-union. I operated on two cases for non-union from this cause before I learned.

With the extravasation (which can only mean great violence to the adjacent soft tissues), you are sure to get a great outpouring of fibrous-connective-tissue-cells. This, with your organized blood clot surrounding and getting between the ends of your bones, means that the "jig is up" with your bony union.

Always remember, if your fracture is very painful, that there is something wrong. Regardless of what your x-ray may have shown and of the secureness of your appliance, get your traps off at once and turn the fracture loose for ten days or two weeks. Then your definite callus is being thrown out and you may set and mould "to taste"—as the cook-book receipes say.

Unless in cases of extremely oblique fractures, do not be afraid of motion between your fragment ends. It frequently hastens a firm bony union.

Never, by any means, put up permanently a fractured arm or leg until you have carefully compared it with its fellow. You may not believe it, but I assure you that this is a very important point. In extremely muscular patients, never overlook the anesthetic in effecting reduction. Personally, I like chloroform, for it relaxes more thoroughly than ether, though it is not so safe.

Look at your fracture cases every day after two weeks have elapsed. This one measure will entail a little extra work on your part; unnecessary, you may think. But, take it from me, it will return big dividends in this kind of work. You may cut a ureter and bury your hysterectomy case and, in a reasonable time, it all blows over. But, get a nice "silver fork" in a Colles and, like Banquo's ghost, it constantly comes back to plague you; it is a traveling advertisement with a reverse English. I have known several really good fellows all but ruined by one such case.

I could give you quite a lot more of my fracture "dope"; doubtless, though, the dose has already been a little heavy, for I perceive that several of the fellows are just waiting to "jump me" in the discussion that is to follow, and this pleases me greatly.

Osteomyelitis

Gentlemen, it affords me great pleasure to introduce to you my fine little friend, splendid student, and the "dandiest" little quarter-back in the whole of Texas Hi Elevens, Master Harold "Red" Harris (you can see that he is some Red), who very obligingly consented to miss school this afternoon in order that you might have a clinic and a living exemplification of what self-reliance and the "be-sure-you-are-right-and-then-go-ahead spirit" will accomplish.

A short time after I had seen the Great World War through and, like Cincinnatus of old, had returned to peaceful pursuits once more, little "Red's" mamma brought him to my office for a painful condition of his left heel, painful enough to keep him from school, with the very meager history that, about a week before, he had fallen, one afternoon, while playing football at home, and slightly hurt his left knee; or else, he had stuck a piece of glass in that heel, which she had

failed to remove entirely.

The next day, "Red" developed a temperature and the pain in the heel was much more pronounced, so much so, that I opened up, down to os calcis, under local anesthesia. No pus was found, neither was there any glass. I did a white count which showed about 11,000 with about 82% "polys," if my memory serves me.

The following day, the pain had shifted from the heel and had rather indefinitely localized itself about the left knee, with a temperature 101.3 and, because of the history of the injured knee (now gentlemen, please get this, for I consider the history of an injury, if ever so slight, the one outstanding point in arriving at a diagnosis of osteomyelitis), I made a hard and fast diagnosis of osteomyelitis, insisted on removing the boy to the hospital and going into the leg at once. This was entirely too radical for the parents who requested consultation, and the consultant, being a roentgenologist, wanted plates, films, etc. Red was removed to the hospital, but of course, the plates did not show anything (Positively, gentlemen, they never will in this early stage.) and my diagnosis was accorded very scant respect by the consultant.

A second blood-count revealed a leucocytosis of 18,000 and about 87-percent "polys." This was entirely enough for me; so, I went to the parents and exerted all the pressure and powers of eloquence and persuasion, of which I was capable, finally, gaining their consent to go into the leg under gas anesthesia. This was done about nine o'clock that night, my first incision being along the outer condylar ridge; but, I encountered no pus after getting below the periosteum. Then, I quickly incised along the inner surface of the thigh, but still no pus. The consultant was thoroughly enjoying himself by this time, but I was determined to find the pus. So, I asked him to hold up the thigh in order that I could go into the popliteal space. To this, he seriously objected on the ground that I would sever one of the arteries and find no pus either. I explained that I was entirely and solely responsible. At least, I would arrest the hemorrhage, if any, and that was preferable to losing the boy's leg if not his life. I reached the bone in one bold cut, without getting either of the arteries, stuck my chisel into the cancellous bone and there came the pus. You may wager, gentlemen, that I was a greatly relieved doctor about that time.

We rocked along for a day or so, the wound discharging some pus, but not enough. So, several nights later, I went into "Red's" leg, again, under ether. I chiseled out quite an opening and was greeted with such a profuse hemorrhage, that I was forced to pack very tightly, with iodoform gauze, to save his life. "Red" was very ill for several days and quite weak from loss of blood and, I recall that I administered normal saline, subcutaneously. He was quite septic in spite of a fairly free drainage; so, I went in again at the end of about a week, but did not seem to improve matters to any marked degree. After about four days' interval, I went in again, enlarging my original incisions along the outer and inner condylar ridges and entered the medullary canal making a number of openings on both sides with bone-drills. I did not encounter anything but blood and I believe now that my last two openings were entirely unnecessary. "Red's" leg, if not his life, had been saved by my original and second operations.

"Red's" was anything but a typical case. There was a low-grade osteitis following the primary suppuration, with great outpouring of osteogenetic material, stimulated, no doubt, by the repeated operative measures. I had feared that we would have a separation of the lower part of the shaft of the femur, with shortening, ankylosis and a devil of a mess generally. But, evidently, I had wrought better than I knew, for, when "Red" did make a start toward recovery, he came with one of his typical football rushes that soon put him over the goal. The leg discharged for several months (about how long, "Red"?) but, it was all the same to Red, and, as the negro would say, "He didn't pay it no mind."

There were several small spicula of bone that were discharged at intervals, and one most peculiar feature in "Red's" case was, a freakish metastasis showing up in the tuberosity of the right ischium about six weeks after drainage ceased from the popliteal space. I cut down on this under local anesthesia. I fear to this day that Red has very little confidence in locals for himself. This rascally complication "bedeviled" us for some months and only yielded after I went after it with a bone curette, again under local, and removed a small fragment of necrosed bone. Thus ended "Red's" case of osteomyelitis and I believe I have not prescribed for him since 1920.

Osteomyelitis is, unequivocally, one of the most serious infections with which we have to deal. While fortunately, it is not common, yet, it is not rare, and its ravages are most pitiable. If you, as a doctor, are to be of any

assistance whatever, you must recognize it within the first seventy-two hours and act with the utmost boldness in disposing of the case, for, as in appendicitis when you get suppuration, so, in osteomyelitis, when the pus has burrowed beneath the periosteum, the doctor who has handled the case is guilty of malpractice.

Now, gentlemen, when you have cases of arthritis, don't assume that they are all rheumatism. Take a most careful history for an injury, make your blood-count and, when you get a leucocytosis of 14,000 or over (usually after the chill it will go to 20,000, or over) and a differential of 85-percent "polys," clean the skin, sterilize any kind of an old knife, get a gimlet from a hardware store, if you have nothing else, and go into that medullary canal at once. What difference, if you don't strike pus or if you have actually made an error? Isn't it a thousand times better to make a hundred errors in diagnosis than to overlook one case of osteomyelitis, letting the patient lose his life or some bright girl or boy go through life, a hopeless cripple?

You may, with some degree of fairness, advance the criticism that you see nothing of especial value to the profession at large in the recounting of the cases herewith presented, and, if you have failed to catch my viewpoint, I grant you that your contention is entirely valid. The vision I wish you to catch is that of a small-town doctor (country, if you like) surrounded by the most adverse circumstances and conditions, yet, with determination, a liberal use of what gray-matter the good Lord gave him and, chiefly, an abiding self-reliance. He is, and will, be able to accomplish some fairly good results, even outside a hospital, and with a most meager equipment.

Finally, gentlemen, what one little country doctor can do, another can do. As a man thinketh in his heart, so is he. Be not appalled by difficulties. So, my parting message to you is, learn all you can every day. Then believe you can do it; for, self-reliance, mixed with a little brains, is the greatest of a doctor's assets.

104½ East Third St.

Tuberculosis of the Anus and Rectum

By CHARLES J. DRUECK, Chicago, Illinois

TUBERCULOSIS is one of the terrible and destructive infections of the lower intestinal tract, which may appear in a variety of clinical pictures. It may be primary or secondary. Primary tuberculosis of the anus or rectum (appearing as the only evidence of the disease in the individual) is very rare. Secondary tuberculosis, on the contrary, is quite frequently seen as a result of swallowing of sputum by the patient who is suffering with pulmonary tuberculosis. In health, the hydrochloric acid of the stomach will destroy the tubercle bacilli; but, in debilitated individuals, where the gastric secretions are of weak quality, the bacilli pass into the intestine unimpaired.

Anal Tuberculosis

Tuberculosis of the skin about the anus may appear as miliary, ulcerative, lupoid or verrucous lesions. Miliary tuberculosis about the anus is very rare and occurs as a complication of tuberculosis of other organs. It develops in the form of millet-seed-sized nodules grouped in crescents or circles which begin in the hair follicles, the sebaceous or sudoriparous glands of the skin. Later, as the infiltrations enlarge, necrosis of the superimposed skin occurs and small, cup-shaped ulcers with ragged borders appear. There is a slight discharge of seropus, but no bleeding. These ulcers usually continue as small individual necroses, but sometimes they coalesce into extensive wounds. Their blood supply is poor and they do not bleed on handling.

Ulcerative Anal Tuberculosis

Tuberculous ulcers at the anus begin insidiously. Sometimes there is a history of a known injury, although often this injury was so slight as to be forgotten until brought to mind by the examiner's questions. For example, a diarrhea, horseback or bicycle riding or a thrombotic hemorrhoid have been followed by an area of induration at the anal margin which persists for a long time and finally ulcerates. The necrosis may begin on the external skin or within the anal canal. As the ulcer spreads, it usually involves both the perianal skin and the anal mucous membrane. Tuberculous ulceration in the anal mucosa does not confine itself to a sulcus, as does a fissure, but widens out in all directions. The borders of these ulcers are clean-cut, undermined and pale with a ring of raised induration all about the ulcer. The base of the

ulcer is irregular and gray in color and does not bleed easily. On the surface of the ulcer, may be seen small yellow tubercles. There is not much pain with the passage of feces or on the manipulation of examination, which is quite in contrast to the sensitiveness of the irritable ulcer. This freedom from pain distinguishes the tuberculous ulcer from fissure, chancre, mucous patch and rodent ulcer. The discharge is scant and thin, and rarely tinged with blood.

The clinical course of these ulcers varies greatly. Some extend slowly while others spread rapidly and destroy all structures. Unlike syphilitic ulcerations, there is no healing at one spot while ulceration progresses at another, but rather the tuberculous ulcer spreads continuously in all directions. The ulcer is not usually fatal, but it contributes to the general breakdown of the patient.

Fig. 1. Tuberculous ulcer at the anus. Note how the ulcer extends out onto the skin and burrows widely. It is not limited to a sulcus between the radial folds.

Case 2.—S. M., aged 43; occupation, a retail grocery clerk; nativity, Irish-American. In June, 1915, he was found to have pulmonary tuberculosis and has been under institutional care almost ever since. In August, 1916, he suffered with hemorrhoids which prolapsed for several days and were finally replaced by a physician. The patient applied an ice bag to the anus almost continuously thereafter for the next four weeks, and, about that time, noticed a marginal abscess. The abscess was opened but did not heal and, since that time, has continuously discharged a yellowish excretion. There is no pain at stool or on walking and but little pain after the manipulations of dressing the wound.

On inspection, we found an ulcer at the mucocutaneous junction in the posterior quadrant of the anus and to the right of the median line. It was ½ inch wide by 1 inch long and extended up into the anus and out on the skin. Its edges were irregular and rolled in; its base dry and glistening, not bleeding and was without any points of granulation. See Fig. 1 and 2.

Fig. 2 shows same condition.

Lupus at the Anus

Lupus was long considered a syphilitic manifestation but is now known to be tuberculous. It is slow in spreading but, in its aggravated type, is terribly destructive of tissue. The disease begins at the mucocutaneous junction at the anus or vulva as a small, soft, reddish-brown nodule in the corium (apple-jelly ulcer) which later breaks down into small, clear-cut ulcers, irregular in outline and having an indurated base. A cheesy pus discharge can always be found in some of the affected area. Cicatrization appears in some ulcers, at times, but it soon breaks down and the ulceration extends. A dense, fibrous infiltration beneath the ulcer seems to prevent its deepening but does not interfere with lateral spreading, which may be caused by enlarging of the individual ulcers and also by the formation of large ones.

Lupus is to be differentiated from cancer and syphilis.

Cancer rarely occurs in early life and, if it does, it runs a very rapid course. On the contrary, lupus frequently appears in children and persists in adult life. The base of the cancer ulcer is pearly white, indurated, uneven and glazed, and its edges are everted. Lupus ulcers are usually multiple, have soft, insensitive bases and edges covered with granulations. The secretions of a cancer are scanty and fetid, while the discharge of a lupus is profuse and odorless.

Syphilis is distinguished by its history, or by the presence of skin lesions, mucous patches, enlarged lymphatics and the Wassermann reaction.

Treatment of Tuberculosis at the Anus

Prophylaxis is all important. The tuberculous patient should be thoroughly and repeatedly impressed with the fact that it is through swallowing the sputum that the bowels become infected. Various procedures have been carried out hoping to produce immunity, but the use of tuberculin and also the transplanting of tuberculous lymph nodes into normal animals have both been unsatisfactory. When infection and ulceration have occurred, medication by mouth is not beneficial. These patients have poor digestion, and unpalatable drugs by mouth further upset the appetite.

Treatment of Anal Ulcerative Tuberculosis

If the patient's initial tuberculous lesion is of moderate extent or is not active, the ulcer may be thoroughly curetted with the Paquelin cautery, removing all of the necrotic tissues at the edges and base of the ulcer. I prefer the cautery to the knife, as by that means the distal lymphatics are sealed and dissemination is prevented. Thus we improve the patient's resistance. Following the cauterization, the anus should be exposed to the sunlight and air for several hours each day. The patient can soon be taught how to spread the nates and expose the anus. If any part of the body, which is normally covered, be thus suddenly exposed, directly, to the sun's action, blistering and painful tanning occurs. Therefore, during the first few days, the nates should be covered with a cotton sheet; later, this is replaced with three layers of cheese cloth, one layer of which is removed after a few days, the second, a few days later. But, at least one layer of cheese cloth should always cover the parts as a screen against the action of the sun. It is remarkable how quickly relief and healing take place. When a patient is weak and in our opinion not equal to the cauterization, even under a local anesthetic, surprising results may be obtained simply by exposure to the sun.

Treatment of Lupus at the Anus

Satisfactory results are obtained by phototherapy (Finsen light), concentrating the light rays on a small area of skin for about an hour. The next day, a small blister appears and this is dressed with soothing ointment. After all irritation has subsided, another exposure is given. The treatment is very tedious. The Röntgen ray also produces good results and is sometimes more convenient. Its action is pushed to the extent of producing a burn which is then protected with a soothing dressing. The scars following either of these plans of treatment are much less objectionable than those of any other procedure.

Zinc cataphoresis has been employed very satisfactorily in the treatment of lupus and epitheliomas. While there is no doubt of the efficacy of the Röntgen ray for the relief of these growths, the process takes much time and is not devoid of danger. In the use of zinc cataphoresis, however, a perfect result may be had without danger or pain, oftentimes in a single treatment.

The ulcer is made clean with hydrogen peroxide or boric acid solution and a pledget of cotton, saturated with 10-percent solution of cocaine, is wound around a block tin electrode of suitable shape and attached to the anode of the constant current. The cathode is the usual pad of absorbent cotton, so placed as not to be under the control of the patient. The anode, upon which the cocaine has been placed, is now applied to the ulcer and a current strength of from 5 to 10 Ma. (milliamperes) is maintained for about five minutes, or until complete anesthesia of the part is apparent.

The cotton is now squeezed with the finger until it is as dry as possible, and dipped into a saturated solution of zinc sulphate and again applied to the sore, using a current strength within the limits of tolerance of the patient, which is usually about 10 Ma., until the ulcer has assumed a decidedly blanched appearance. Every portion of the sore must be treated until it turns white. No particular care need be taken to prevent contact with the sound tissue immediately surrounding the ulcer; it will not be affected.

In a day or two, the surface of the ulcer turns black and, about the fourth day, the crust can be removed, leaving a smooth, healthy cicatrix.

The patient should now be watched, for a few weeks, for any small nodules that may appear in the margin of the sore. If any appear they should be given another treatment.

Tuberculosis Within the Rectum

Tuberculosis within the bowel occurs rarely in the miliary form but, more commonly, as ulcerative and occasionally as hypertrophic changes.

Miliary tuberculosis of the rectum usually is secondary to tuberculosis of the genital organs, more particularly the prostate, and begins as deposits which feel like bird-shot beneath the mucous membrane. The mucosa is pale and anemic, except that immediately about the nodule there is a ring of congestion. This

stage may continue for a long time, but at any moment the little nodules may become yellow, caseate and break down into little, cup-like ulcers, which later coalesce to form large ulcers, or several small ulcers may be connected by burrowing underneath the mucous membrane.

Ulcerative Tuberculosis

Ulcerative tuberculosis is the more common expression of this disease in the bowel and is usually secondary to pulmonary tuberculosis. Infection begins in the solitary follicles and in Peyer's patches, but spreads into large, irregular-shaped ulcers which follow the course of the blood vessels. Thus, in the rectum, they spread in all directions while, in the sigmoid, they tend to encircle the bowel. Beneath the ulceration, is a deposit of fibrous connective tissue.

Symptoms:—The local symptoms of tuberculous ulceration of the sigmoid or rectum are lumbar or sacral pain and rectal tenesmus, accompanied with diarrheal evacuations of pus, blood and mucus. The diarrhea is slight, at first, but increases as the ulceration spreads, until thirty or forty evacuations occur daily, and the associated coloproctitis disturbs digestion in general. The discharges have a gangrenous odor. Bleeding is not profuse but, as the oozing is persistent, the blood may accumulate and be retained in the rectum and, when voided, may be fresh or tar-like or mixed with feces.

Diagnosis:—Tuberculous ulceration of the bowel should be looked for in every tuberculous patient when diarrhea occurs that cannot be accounted for by overeating or improper food or by any other dietetic errors, and which does not promptly yield to treatment. The presence of tubercle bacilli in scrapings from the ulcer is strong evidence of the nature of the trouble, although the possibility of accidental deposit of the bacilli on a non-tuberculous ulcer must be remembered. The clinical picture is, however, somewhat characteristic: (1) The presence of tuberculosis elsewhere, as in the lungs, lymphatics or the genito-urinary system; (2) ulcers which follow the course of the blood vessels and in the rectum spread out irregularly in every direction; (3) diarrheal discharge of mucus, blood and pus with rectal tenesmus; (4) general emaciation of the patient with great loss of body fat. This may be expressed by the consumption of the perirectal fat and a shrunken or funnel shaped anus.

Differential Diagnosis:—The differentiation of a tuberculous ulcer from that due to some other irritation is very essential. Theoretically, this should be easy but, practically, it is much more difficult, because often the classical symptoms are lacking or confused. It is probable that tuberculous ulceration of the terminal bowel (sigmoid and rectum) is much less frequent than is generally supposed. When patients with rectal ulceration become emaciated, the conclusion frequently is, that the process is tuberculous. Any ulceration in the lower colon produces dysentery which contributes to imperfect nutrition and the clinical picture of tuberculosis, but the character of the ulceration differs with each causative factor. Rectal ulcers of any type are intractable, and, therefore, often believed to be tuberculous. Amebic ulcers may be mistaken for tuberculous lesions, but the amebic sufferer passes through many periods of symptomatic cure followed by sharp relapses, quite in contrast to the story of tuberculosis, which is progressively worse. In amebic ulceration, there is little variation of temperature and the pulse rate is increased only as exhaustion becomes pronounced. In tuberculous ulceration, elevation of temperature and acceleration of the pulse rate are always present.

Cancer, by the time it reaches the ulcerative stage, fills the lumen of the gut and causes obstructive symptoms.

A syphilitic ulcer has a punched-out appearance with raised edges, while the tuberculous ulcer is irregular in outline and has an uneven base (a worm-eaten appearance).

Hyperplastic Tuberculosis

This type of tuberculosis is characterized by the formation of a dense hypertrophy, instead of caseation and necrosis, and may be confused with syphilis or cancer of the bowel. The existence of tuberculosis elsewhere in the patient should put the physician on his guard.

Symptoms:—A proliferating stenosis, with great thickening of the wall of the bowel and including the peritoneum, develops, instead of the ulcerating cavities found in ulcerative tuberculosis of the bowel. These lesions are found in the cecum and appendix as well as in the sigmoid and rectum. The patient has the same diarrhea, tenesmus, sacral pain and rapid loss of weight as in the ulcerative type of tuberculosis. This hyperplastic form of tuberculosis is frequently mistaken for cancer or diverticulitis, and is differentiated only by microscopical examination.

Because rectal tuberculosis is secondary to this same infection elsewhere, it is usually the lesser complaint, and the patient succumbs to the primary trouble before stricture of the

bowel becomes severe; but, in some instances, obstructive symptoms are present. If stricture occurs, a removal of the diseased part of the bowel, by resection, is the only treatment.

Tuberculous Perianal Abscess and Fistula

The relationship of tuberculosis of the lungs, bones or lymphatics to rectal abscesses and fistulæ, is an open question. A positive statement that a given fistula is, or is not, tuberculous, is very difficult and often impossible, although much to be desired. Some fistulæ are surely tuberculous and others, quite as positively, are not tuberculous, but the proportion of one class to the other is unsettled, and much difference of opinion exists. Melchior[1], from a presentation of 197 cases, concludes that 61 percent of fistulæ are tuberculous. Geffrath thinks that 14 percent of fistula cases are associated with tuberculosis of the lungs.

Between these two estimates, are opinions of different observers. However, statistics that vary so widely are of no value.

Turning the problem about, however, to determine the number of persons suffering from pulmonary phthisis who are also suffering with rectal fistula, we find that nearly all observers agree on about 5 percent. Evans[2] says that about 6 percent of the people who have pulmonary tuberculosis also have rectal fistula. A patient suffering with tuberculosis elsewhere and having a rectal fistula need not necessarily have a tuberculous fistula, and vice versa, a patient may have a tuberculous fistula without showing signs of tuberculosis anywhere else in his economy. Tuberculosis is such a frequent disease that, undoubtedly, it may attack persons suffering with non-tuberculous fistula.

Loss of flesh is not necessarily evidence of the tuberculous nature of a rectal fistula, because emaciation may occur in any irritating disease about the anus; such as ulceration, fissure, hemorrhoids, proctitis or papillitis, and any of these will interfere with the appetite and digestion.

There are, however, symptoms which I consider highly probable of tuberculosis:

1.—The discharge of a tuberculous fistula is usually small in amount, thin and milky white, and continuous. The patient says that, ever since the abscess opened, it has never healed even for a short time.

2.—There is much dense induration (wall of scar tissue) about the sinus through which few sensory nerves pass, and the manipulation, incidental to examination, does not cause much pain.

3.—Multiple external openings soon develop and this is very presumptive of tuberculosis.

All of these signs are, however, relative, and a positive diagnosis must be made by biological study of sections of the fistula.

All patients with rectal fistula should be subjected to a careful examination for tuberculosis elsewhere.

Clinically Two Types of Fistula Occur

One is, a deposit of tuberculosis in the rectum or anus which ends in a fistula.

The second is, a simple fistula in a rundown person who is suffering with active tuberculosis elsewhere.

There are several contributing factors to rectal abscess and fistula in a tuberculous patient.

1.—Sputum, infected saliva or infected food may be swallowed.

2.—Infection may occur through the blood or lymph stream.

3.—Direct inoculation from the contaminated hands of the patient suffering with active pulmonary tuberculosis.

4.—A locus minoris resistentiæ, first as part of the generally lessened vitality and, also, as a result of the loss of perirectal fat, which is part of the systemic emaciation, may be the cause.

The physical findings in a tuberculous fistula are particularly important, because they may indicate the underlying etiology, months or years before active consumption appears in the lungs, bones, nervous system or lymphatics.

Fig. 3. Tuberculous fistula. Note two external openings on patient's left. Also induration about sinus openings and also induration of right labia.

The external opening of a tuberculous fistula is different from that of the simple fistula; instead of the usual small opening, there may be a cavity large enough to admit the end of the examiner's index finger. The

skin about the margin of the wound is livid and purple, because its blood supply has been destroyed. The ulcer is irregular in shape, with undermined edges and a pale base covered with a thick layer of gelatinous material, underneath which is a dense, fibrous layer. Sometimes, these gelatinous granulations fill and overflow the ulcer until the external opening resembles a wart. Melchior believes that granulations protruding from the external orifice of the fistula definitely indicate tuberculosis. Absence of such granulations, however, is no evidence against tuberculosis. With all of this destruction going on, there is very little local pain. There is no locking up of the discharges, because the large opening in the superimposed skin permits easy exit.

Determining the Tuberculous Character of Rectal Fistula

It is often impossible to determine, from the early appearance of the fistula or its clinical course, whether it is, or is not, tuberculous. Microscopical examination of the discharge or scrapings from or sections of the fistula are very unsatisfactory, because of contaminating infections and inflammation, which produce ulceration and sloughing that overshadows the caseation.

Fig. 4. Tuberculous fistula. Calcified lymph-glands showing.

All cases, in which any doubt can arise, should be subjected to several careful x-ray examinations in a search for calcified lymph glands within the pelvis. Fig. 4.

If a cold abscess exists and is unruptured, a little of the contents may be aspirated through a puncture, mixed with normal salt solution and injected into the subcutaneous tissue of a guinea pig. If a fistula is present, a section may be taken from the side of the sinus for examination or, if an ulcer is under examination, a piece of its edges may be removed. The small section may be easily and painlessly removed under local anesthesia.

An area two inches wide is shaved on the belly of the guinea pig. The skin is slit for about three-fourths of an inch and, with the handle of a knife, a pocket is opened in the subcutaneous tissue on either side of the incision, and the suspected material is buried in each pocket. The wound is closed and sealed with collodion. In three to six days, an abscess will develop, which should be opened. If no tuberculosis is present, the abscess heals without further developments. If tuberculosis is present, the wound probably will not heal, but an ulcer continues, the pig becomes sick, its rectal temperature reaches 104° F., emaciation develops and, in three months, the animal dies of miliary tuberculosis, especially involving the spleen, liver and lungs. At any time during this illness, the inguinal glands will be found enlarged and, if sectioned, will demonstrate tubercles and tubercle bacilli.

The Treatment

Treatment of tuberculous fistula is divided into that of:

1. Tuberculous rectal fistula, where there is no active tuberculous lesion elsewhere;

2. Tuberculous fistula in patients suffering with other active tuberculous foci.

Tuberculous fistula, where the patient is in good physical condition, without active tuberculosis of the lungs, lymphatics or bones, may be cured without danger of setting up a miliary tuberculosis, and the sufferer thereby given a longer lease of life and also much comfort. The plan of treatment is the same as that of a streptococcus fistula, but the details are different.

In a general way, the situation may be summed up as follows:

1.—Practically all non-tuberculous fistulæ may be cured.

2.—If carefully treated, all patients will have good rectal control following the necessary operation upon the parts.

3.—The majority of tuberculous fistulæ may be cured if the patient is in good physical condition.

4.—Even bad tuberculous fistulæ may be benefited, the suffering ameliorated and secondary suppuration prevented.

Operation:—Excision of the fistula and immediate closure of the wound with sutures

should not be attempted whenever tuberculosis is suspected. The dense, fibrous wall of scar tissue about the sinus is our patient's protection against widespread tuberculosis. Where opening of the tracts and cleaning out of the débris is indicated, we prefer the live cautery instead of the knife or curette. The sinuses should be laid open with the cautery in the usual manner, observing every care against accident, and all necrotic tissues and granulations are seared out, until the fibrous tissue base is exposed. All undermined skin is removed, as otherwise granulation is prevented or long delayed. By using Paquelin cautery, the lymphatics are everywhere sealed up as they are reached. A few days after the operation, these wounds become more sensitive than any other operative wounds about the rectum. The dressings should be light and only sufficient to catch the discharges. Healing is slow and the wound must be stimulated by exposure to sunlight and air each day.

Tuberculous abscesses or fistulæ may appear about the rectum, years before pulmonary or other active tuberculosis is found, and advise and treatment at this time may prevent the development of more active lesions.

Palliative:—There is another class of patients who present themselves suffering with tuberculous rectal fistula and who have also active tuberculosis elsewhere (lungs, lymphatics, bones and nervous system). They are poor operative risks, but seek relief from the discharge and pain of a rectal fistula. These patients cannot perhaps be restored to health, but much can be done to relieve their suffering by the use of bismuth iodoform mixtures. Two preparations of these are used, a thick paste and a thinner emulsion. The paste is prepared according to the formula of Rutherford Morison[3]. It is composed of bismuth subcarbonate, 1 part; iodoform, 2 parts; liquid petrolatum, 1 part.

O'Connor and Kreutzmann[4] devised an emulsion because of the difficulty of introducing the paste into the deeper cavities, which necessitated drainage through a narrow sinus. This emulsion is composed of bismuth subcarbonate, 1 part; iodoform, 2 parts, and liquid petrolatum, 4 parts.

The wound is first thoroughly irrigated with sterile saline or 1:25 boric acid solution. It is then liberally swabbed out with 75-percent alcohol. The surrounding skin is shaved and cleansed in the same manner. The wound with all its cavities and pockets is tightly packed with bismuth iodoform mixture and the opening closed with collodion or an adhesive strap; the patient being dismissed to report again in three to five days. Upon examination, many of these sinuses are closed and remain so for a variable length of time. This affords our patient weeks, or sometimes months, of relief and comfort. As the treatment is not painful or otherwise objectionable to the patient, it may be repeated as needed. When the cavity is large, the possibility of iodoform poisoning or lead poisoning is to be borne in mind. Our cases usually hold less than an ounce and, thus far, we have had no systemic intoxication; still, careful observation of the patient's pulse and an inspection of his gums must be made at each visit.

Case No. 3:—T., female, aged 30 years, had been under weight for several years; she looked anemic; hemoglobin, 72; had enlarged cervical glands on both sides; lungs negative; had a labial abscess for two years, which had discharged ever since. Figure 3 shows appearance on examination; the whole labial and perineal region seemed indurated on palpation; one external opening on labium has a sinus opening in the vagina, a second sinus into the bowel between the two sphincters; a branch from the sinus opens out on the skin to the left of the anus (page 659).

An x-ray examination of the pelvis demonstrated calcified lymph glands. This patient was obviously a bad surgical risk as, doubtless, the whole perineum was invaded; and palliative treatment was instituted. The sinuses were, each, carefully injected with bismuth paste and the patient given heliotherapeutic treatments. After several injections, the sinuses closed and remained so for about three months, after which the patient was lost from observation.

30 N. Michigan Blvd.

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[1] *Beitr. klin. Chir,* 1910, LXVII, 650.
[2] *Ohio Medical Journal,* 1910, VI., 169.
[3] *Lancet,* London, 1916, ii 268.
[4] *Journal A. M. A.,* Dec. 15th, 1917.

The Essentials for Success in Therapeutic Immunization (Antigen Therapy)*

By W. M. CROFTON, Dublin, Ireland

Lecturer in Special Pathology, University College, Dublin; Consulting Physician, Royal National Hospital for Consumption; Pathologist to Dr. Stevens's Hospital.

AS LONG ago as 1905, I showed that the opsonic index, the experiment on which Wright and Douglas founded the practice of therapeutic immunization, gave an incomplete picture of the serological conditions necessary for therapeutic success, and that, therefore, a method founded on such an experiment could not hope to give anything but limited results—a prophecy which has been amply fulfilled by the event. In spite of repeated papers and publications pointing out the causes of failure, the opsonic index still strides over the narrow world of therapeutic immunization with results disastrous to efficiency. I feel, therefore, entirely justified in reiterating the conditions essential for success; for, by following them, immunizators have been able to overcome every infection, acute or chronic, for which a microbial cause has been found. Nor is there any organ or tissue of the body, infection of which cannot be overcome by this means. By this method, also diseases indirectly due to microbial action, such as uric acid calculi formed in the urinary tracts, can be overcome by cutting off their building material through immunization against a chronic intestinal infection. I make no modest claim for the method: I claim that it is the fundamental method against microbial infection (for, is it not Nature's own?), and that by its means acute and chronic diseases due to microbes can be prevented and cured when every other method has failed. I should be glad, if challenged, to prove my boasts under the observation of any hospital staff on a number of cases sufficiently large to give the method a fair clinical test.

The conditions necessary for success are: (1) The antigen must be of good quality; (2) the antigen must be complete; (3) the patient must be capable of reacting; (4) a dose must be attained sufficient to produce the necessary amount of specific antibodies for the particular case; (5) the doses must be given at the proper intervals.

1.—The antigen must be of good quality:—the antibodies we desire to produce are of two kinds: (a) antibodies to the tissue of the microbe; (b) antibodies to the toxins (ferments) produced by the microbe.

(a) These antimicrobial bodies are of the nature of tissue ferments entirely similar to those produced for the tissue digestion of carbohydrates, fats, and proteins. They are compound ferments, one part not destroyed by heating to 56° C., and known by various names, e.g., immune-body, amboceptor, co-ferment, and so on; for these bodies, I have suggested the generic name of "adapters." The other part is destroyed by heating to 56° C., and is known as complement, or ferment. The complement is at best feebly specific, the adapters are absolutely specific; at any rate, those for the protein part of the antigen are; those for the lipoid elements are much less so or not at all.

(b) The antibodies to the toxins are antiferments, and are either anti-endotoxins or anti-exotoxins. The majority of pathogenic microbes produce only endotoxins, at least in vitro.

To a few microbes which produce exotoxins, the immunity is nearly entirely antitoxic; and, since the toxin, as I conceive it, is the ferment by which the microbe prepares its food from living protoplasm, the neutralization of it by antitoxin deprives the microbe of its means of life, so that it can no longer live in the body. It is ingested by phagocytes, digested by the aid of specific adapters, and the phagocytes survives the process, since antibodies to its toxin are present. In the majority of cases, the microbe produces little or no exotoxin, the endotoxin it produces acting entirely in its immediate environment. If an invading microbe is ingested in a phagocytic cell of a susceptible animal, the cell is destroyed by the toxins of the microbe. If the animal is partially immune, and there is then sufficient adapter to enable the phagocyte to ingest and digest the microbe, the microbe is destroyed, but the cell may be also destroyed by the consequently liberated endotoxin, unless there is sufficient antitoxin present to neutralize this. It is for this reason that the injection of antityphoid serum and antimeningococcic serum may be dangerous owing to the liberation of toxin from the hydrolysed

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microbes, unless sufficient antitoxin is present in the serum.

It is clear, then, I hope, from my brief argument, that, unless antitoxin is present in the tissue juices in sufficient quantities, the patient is not in a position to overcome his infection effectively.

When an animal becomes infected with a number of pathogenic microbes of a given kind, the latent period before the onset of disease is largely accounted for by the struggle for existence of the microbes; there is a survival of those microbes that are able to adapt themselves to their new environment, that is those whose descendants are able to produce a ferment capable of attacking the living material of that particular host. By passage from one individual to another, this capacity may be intensified to such an extent that the invading microbes certainly survive in their new host. But the quality of the tissues of every individual is different from that of others and, therefore, the quality of the toxin produced by the microbe must be modified by every host it occupies.

It is clear, then, that, if an antigen is to be effective, it must contain sufficient toxin to produce antitoxin, and to be a perfect antigen it must be isolated from the patient himself.

What is one to think, then, of the method of using antigens made from microbes reduced in toxicity through a saprophytic existence by repeated subculture on media containing nothing to stimulate their toxicity? Or of the much-vaunted 'detoxicated vaccines'? All one can say is, they are the exact antithesis of what is desirable in the way of an antigen. Antigens should be intoxicated not detoxicated.

2.—The Antigen Must Be Complete

In my first paper, I argued the necessity for the good quality of the antigen. It is equally necessary for success, if more than one microbe is attacking the patient's tissues, that the antigen should contain the bodies and toxins of all the attacking microbes.

Since the body is always covered with innumerable microbes, both on the skin and on the mucous surfaces, and the microbes from the mucous surfaces are being constantly carried into the interior where they are normally destroyed or excreted by the kidneys, it is not surprising that these microbes are looked upon as leading a purely saprophytic existence on the waste products and desquamated effete cells.

Indeed, it is the proper function of these microbes to invade and dissolve the body after death and so make it fit food for plants. What is not at all realized, however, is that, if the resistance of the body is lowered by whatever means—such as the invasion of a microbe which had developed the ferments to attack *living* protoplasm, or lowering of resistance by grief, alcohol, cold, and the like—these microbes develop ferments (toxins) capable of attacking living protoplasm. They have turned from a saprophytic to a parasitic mode of life, so that, even if the original invader has been killed off, the disease is frequently not cured for this reason.

There are, then, always present in the body microbes capable of becoming pathogenic if the resistance of the body is lowered. Of course, in persons whose bodily health is robust, such as those born of healthy parents or leading an out-of-door existence, their microbial inhabitants may be truly saprophytic in their mode of life. But, we have really no certain method of knowing whether this is the case or not. The only way we have of becoming aware of microbial invasion is, by feeling discomfort when the microbes have destroyed a sufficient number of cells to produce inflammation with its concomitant train of symptoms and physical signs. The microbes in mucous membranes and in the structures of the dermis and epidermis may really be living partly or wholly on live cells but without killing sufficient of them to produce disease. In fine, there is no definite borderland between pathogenicity and non-pathogenicity, and one cannot tell by looking at it whether or not a microbe is pathogenic.

The fact is that, if not a mixed infection from the first, a single invading microbe rapidly picks up enthusiastic allies from the inhabitants of the country it is invading; so that most acute and practically all chronic infections are, or become, mixed.

Let me take examples. The primary cause of appendicitis is usually the streptococcus: the abscess formed swarms with coliform bacilli, so much so that the colonies of streptococci may be overwhelmed and may not be found or, indeed, develop. Early enteric lesions are caused by the B. typhosus or paratyphosus: the deep ulcerations of the damaged Peyer's patches are produced by the intestinal microbes—B. coli and enterococci—and these as well as the enteric microbes get into the circulation and may produce damage to any tissue, commonly to the kidneys which excrete them.

The complications of scarlet fever and other fevers are principally produced by mixed infections. Gonorrhea is brought about usually

by the gonococcus alone, but how seldom does one isolate this microbe in pure culture?

Again, in seborrhea and acne, the overaction of the sebaceous glands is undoubtedly produced by the acne bacillus, but the resistance of the cells is constantly primarily lowered by the excretion of abnormal waste products produced by a chronic alimentary infection. This infection in turn is brought about by the swallowing of pathogenic microbes from the mouth or nasopharynx, which infects the alimentary tissues, lowering their resistance and allowing the B. coli to become pathogenic. Gout, rheumatoid arthritis, fibrositis, and neuritis are still more complicated, since the infection from the intestinal tract, producing chronic septicemia and the absorption of abnormal products of food-stuffs, interferes with normal metabolism; for instance, of the liver, interfering with its deaminizing functions and thus leading to the production of abnormal amounts of uric acid and urates which may be deposited as in gout, and, anyhow, help to produce abnormal hydrogen-ion concentration; this in turn interferes with the whole bodily metabolism and still further lowers the resistance of the tissues and the capacity of the phagocytic cells. The vicious circles are complete. Open tuberculous lesions are always mixed infections, and even in acute miliary tuberculosis microbes other than the tubercle bacillus have been isolated from the tubercles.

Finally the resistance of the body may be lowered by invasion, either primary or secondary, of animal parasites, *e.g.*, protozoal parasites, spirochetes, amebæ, and so on. In chronic amebic dysentery, for instance, it it not only the amebæ which damage the intestinal tissues but also the microbes. So too some cases of pyorrhea alveolaris are complicated by the spirochetes of Vincent's angina

It is clear, then, that, since mixed infections are so constantly present, it must be essential, if we are to succeed in treatment, that the antigen used must contain all the infecting microbes. Let us think for a moment what may happen after a dose of a microbial antigen given under the skin. First of all there is a "local reaction" at the site of inoculation, which may be sufficiently severe to produce the phenomenon of inflammation stopping short of suppuration. There may be a "general reaction," rise of temperature, rise of pulse-rate, malaise, and so on, due to the absorption of unaltered toxins into the circulation; while at the site of infection there is a "focal reaction" owing to increased poisoning of the infected tissues with consequent increased activity of the infecting microorganisms, increased breakdown of tissue cells that are being attacked. This increased activity at the focus of infection, with its accompanying hyperemia, is compensated for—in a shorter or longer time—by the arrival of fresh antibodies, with consequent increased efficiency of the phagocytes and the killing off of the increased number of infecting organisms.

But supposing the infection is, as it so constantly is, a mixed infection and the antigen is not a complete one—one or other organism being left out—the consequence is that the increased inflammation produced by one or other of these microorganisms is not compensated for by the arrival of specific antibodies for that particular microbe and its toxins, so that the activity of that microorganism is increased, the resistance of the issues at the focus of infection is lowered to it, and there is no increase of resistance to that particular microorganism and no consequent efficiency of phagocytosis. The last state of the tissues at the focus of infection, and therefore of the patient, may be worse than the first. There can be no doubt at all that this is the case. Over and over again when a case was getting worse rather than better, have I found that I had omitted some necessary microorganism from my antigen. Such cases have, when the omission has been corrected, proceeded quite satisfactorily to cure.

3.—Dosage and Intervals

Having made sure that the antigen we are going to use for a particular case is of good quality and contains all the microbes causing the disease[1], that is, both the primary and secondary infections, it becomes necessary to consider the doses to be given to the patient and the intervals at which they should be administered.

The units of bacterial antigens have been variously estimated, *e.g.*, by the lethal dose, by weight, and by the number of microbes in suspension. The first two methods involve so much additional laboratory technic that for this and other reasons they are inconvenient. The number of microbes in suspension is readily ascertained, and is therefore very convenient; one million of microbes per C.c. in suspension may be taken as the unit. Originally, the dosage and intervals were estimated by the opsonic index. I showed, in 1905, the limitations of this method, and how the dosage founded on it was bound to give only very limited results; a prophecy which has been entirely justified by events.

For prophylaxis a few large doses will give sufficient relative immunity for a considerable time, indeed, will probably leave the patient always in a better position in relation to that infection than if uninoculated. But, in the case of an infected person, the dosage must be very nicely regulated so that the amount of inevitable additional poisoning at the site of infection will not be too great, while the stimulus to uninfected tissues will be adequate.

It is commonly thought that active immunization is an unsuitable procedure in acute infections, such as septicemia or pyemia; that, once the blood-stream is involved, our only hope is, the use of passive immunization with serums. There was never a greater fallacy. Active immunization gives most dramatic results in the most acute septicemias, in puerperal fever, wound infections, acute peritonitis, pneumonia, meningitis, acute pyelonephritis, and so on. So much so, that I make bold to prophesy the gradual disappearance of passive immunization, to which there are well-known objections. It must not be forgotten that most apparently localized infections, both acute and chronic, are not really so, for it is constantly possible to isolate the cause of them in the patient's urine. I isolated the cause of an iritis from the patient's urine, a few months ago.

If, however, the resistance of endothelial cells of the blood vessels is overcome and the tissues are no longer protected and capable of response, as in overwhelming hemorrhagic types of infection or towards the end of a chronic infection, then, of course, active immunization is impossible; but one can never really know until one tries.

One might naturally think that the initial dose would be especially small in acute infections as compared with that in chronic infections, but this is not so; there are many chronic infections in which, owing to the exhaustion of the patient or the site of the lesion, or both, the initial dose must be just as small as in acute infections. And further, it is remarkable that, in such cases as puerperal fever, pneumonia, and such like infections where there is not great anatomical destruction, recovery is brought about by from two to six small doses of antigen. It would appear as if the whole system were awake for the making of specific antibodies, giving a ready response to the specific stimulus; whereas in chronic infections, such as chronic bronchitis, chronic eczema, rheumatism, rheumatoid arthritis, etc., it is necessary gradually to build up the patient's immunity by a long course of eighteen or more doses.

As to the actual doses, in the case of the staphylococcal group, one can, as a rule, give ten times the dose of any other microbe. Supposing the case to be one of puerperal fever and the microbes *Staphylococcus aureus*, streptococci, and *B. coli*, then the dosage must be $10 + 1¼ + 1¼$, $25 + 2½ + 2½$, $50 + 5 + 5$, $75 + 7½ + 7½$, $100 + 10 + 10$ millions. It is very uncommon to need larger doses. If the case is a very severe one with rigor (my last patient, and she recovered, had a temperature of 106.8° F. in the armpit), the progression might be $5 + 1 + 1$, $10 + 2 + 2$, $15 + 3 + 3$, $20 + 4 + 4$, and larger if necessary.

In many cases, one has to begin just as carefully in chronic infections, such as third-stage cases of phthisis, mucous colitis, or middle-ear infections; but in chronic infections if the dosage is not carried up to at least 5,000 millions staphylococci or 500 millions of other antigens, the patient is not safe from relapse. It is frequently necessary to carry the dosage very much higher before the desired result is attained. In my third case of immunization, a case of chronic staphylococcal septicemia following acute osteomyelitis, I had to attain a dose of 30,000 million before the patient was cured. This was in 1905.

Spacing the doses is a puzzle to many. Quite frequently, doses are given at fixed intervals without any regard to the reactions of the patient; often, I am afraid, during a negative phase, and with dire results. The rules for spacing doses are quite definite. The following is my procedure in acute cases:

If, after an injection, there is an immediate fall of temperature and pulse, the next dose may be given in twenty-four hours.

If there is no effect on temperature and pulse, the next dose may be given in twenty-four hours.

If there is a rise of temperature and pulse, one must wait until the reaction has passed off for twenty-four to forty-eight hours before giving the next dose.

In chronic cases the rule is:

If there is no reaction after a dose (*e.g.*, malaise, rise of temperature and pulse, or increase of symptoms; that is, general or focal reactions), the next dose may be given after two clear days' interval.

If there is a reaction, wait for two clear days after all signs of it have disappeared, before giving the next dose.

The reason of this interval is, that the reaction sometimes does not come on for forty-

eight hours. If there is any doubt as to whether or not a reaction has completely passed off, it is much wiser to wait a day or two, rather than give a dose during a negative phase—in this case it is better to be too late than too soon.

[We are impressed with the rules, given by Doctor Crofton, for spacing the injections of vaccine (or "antigen", as he calls it). Many practitioners seem to find difficulty in this matter and ask for definite schedules. The rule of thumb does not work well in humans. It is always necessary to reason out matters.—Ed.]

THE OSTEOPATHIC SCHOOL

Elsewhere in this issue, Dr. F. N. Shorb, an osteopathic practitioner, objects to some criticism of irregular cults that is contained in Doctor Thewlis' article that appeared in Clinical Medicine for May. Doctor Shorb claims that osteopathy is a system of healing, the equal at least of drug therapy, and he says that it should not have been classified with Christian Science and chiropractics. He makes good his contention that as much time is devoted to the teaching of human anatomy in osteopathic as in medical colleges and that the educational requirements for admission to both schools are of equal standard.

We can understand Doctor Shorb's objection to having his school included among several irregular cults that are based largely on pretense, and frankly admit that there are a great many osteopathic practitioners who are not only successful but also efficient. In the degree in which the osteopathic forms of practice develop and in which the practitioners of this school gain recognition, it must be acknowledged that they approach the methods of the regular school of medicine more and more. In fact, it is an open secret that osteopathic physicians use drugs and biological remedies to a very considerable extent, although originally the school was based on "drugless" therapy.

When Doctor Shorb claims that osteopathy is . . . "a system of healing the equal at least of drug therapy" . . . he employs a limited diction which shows the erroneous conception that most people have concerning the essential differences between regular medicine and the irregular schools of healing. Regular physicians are usually said by these people to practice "drug therapy," as though this fact itself formed the most essential and important characteristic and, furthermore, as though it were an exclusive and inevitable peculiarity of the regular practice of medicine. Nothing can be further from the truth, because the utilization of the drug armamentarium, as it is taught in the courses and textbooks on materia medica and therapeutics, is only one of the numerous means that the regular practitioner avails himself of in the management of his cases and his patients. Indeed, if osteopathic physicians originally made a great point and, in fact, made a virtue of eschewing the prescribing of drugs (from which they have decidedly departed) and if Christian Scientists and Chiropractors, New Thoughters, *et id omne genus*, consider the use of drugs as the main differential characteristic, it should be well known that practitioners of medicine have at their command and at their disposal every single method of healing that has ever been proposed, and that it is legitimate for them to employ any of them singly or severally, as they may think best, to attain the desired results, namely, the restoration of health.

It is a peculiarity of irregular cults that they are limited in the remedial agents, or methods, which they propose; that they make claims concerning the causation of disease which are most convenient to them in the administration of their method. This is seen readily in Chiropractic practice which consists of spinal adjustment and, consequently, refers the origin of all disease to the necessity for spinal adjustment. In a degree, as the adherents of such special cults acquire greater knowledge, they always are found to approximate the teachings of medicine or of the regular school of medicine and, thus, they eventually are absorbed unless they simply die out and disappear. It is in this manner that the homeopathic school of healing is gradually being absorbed in the medical profession at large, and the osteopathic school has started to follow suit.

THE OSTEOPATHIC SCHOOL

My attention was recently called to an article in The American Journal of Clinical Medicine, by Dr. Malford W. Thewlis, entitled "The Pseudo-Medical Cults," in which he says:

[*Continued on page 674.*]

Surgical Seminar

Conducted by GUSTAVUS M. BLECH.

Plea: Not Guilty

WE are very glad to be able to publish, and to reply to, the following letter, which comes from a general practitioner of Chicago:

Editor, "Seminar:"—Your request for frank expressions of opinion regarding the "Surgical Seminar" encourages me to say to you what I have felt for some time to be a fact and of some importance to the reader-class of THE AMERICAN JOURNAL OF CLINICAL MEDICINE.

I do not want to fall into the error of "covering up" with nosegays the criticism I have to present. It is a generally acknowledged fact that your method of teaching is not only original, but as close to actual clinical teaching as the printed word can possibly accomplish. I have spoken to a number of my friends who are of the same opinion. The "Seminar," accordingly, is a department of the Journal which makes the Journal itself characteristic of its program to help along the struggler at the bedside.

Nevertheless, I am constrained to say that, sometimes, you are altogether too much a dyed-in-the-wool surgeon. Not all of us have had surgical experience enough to aim as high as you often do, and, in the problems of our actual work, we seldom come into positions to make difficult diagnoses ourselves—that's what consultations are for—but, more often, we wonder whether apparent cases of a surgical character are not actually medical ones; or, vice versa, whether apparently medical cases should not be handed over to a competent surgeon for attention and care.

If the "Seminar" were to bear in mind that, with general practitioners, at least, few cases come to the operating table, and that many socalled surgical cases escape surgical operation simply because no dyed-in-the-wool surgeon got a hold of them, I am satisfied that it would prove of inestimable value to the entire medical profession. Please note that I am sending this as a matter of constructive criticism.

If you think it worthy of publication let it appear that it was signed by "Caduceus II".

Reply

First, I beg to be excused for replying in the first person. The criticism presented by Dr. "Caduceus II" is obviously directed against the person rather than the editorial management, for, as a matter of fact, the Managing Editor has let me have free rein as regards this particular department, and I assume full responsibility for the "Seminar" in its entirety.

The charge that I am a dyed-in-the-wool surgeon is not based on fact. The mere circumstance that I am no longer a general practitioner—I have been one for many years—and, for a number of years past, have restricted my practice to general surgery and operative gynecology, will, as I shall show, prove me innocent of the charge.

I repeat, I have been a general practitioner for years. That means, I have treated baby X, for diarrhea and, a day later, delivered his mother or aunt of twins. That means, that I was sweating blood trying to sew up an ugly scalp wound on bricklayer Y, who worried me because I could not tell whether he had a fracture of the skull, only to "nurse" him through a case of double pleuropneumonia a week later—and "him" an alcoholic, to boot. That, further, means that Mrs. Z., fat-bellied and fidgety, had peculiar pains in her upper abdomen and I was scared to death lest my "preliminary" diagnosis of "cholelithiasis" would prove erroneous—if she decides to seek the service of a public hospital. And, yet, deep in my inner heart, I knew that I was just as incompetent to make an exact diagnosis of "gall-stones", as any renowned surgeon on this globe of ours. I had my Elliott obstetric forceps repaired and renickeled several times, before I made up my mind that I was morally justified to hold myself out as a surgeon.

Some time later, the Professional Publishing Company, of Philadelphia, published a small volume from my pen, entitled "Borderland Surgery". This was nothing more nor less than an exposition of conservatism in surgery.

Impressed by the late Nicholas Senn's attack on what he aptly termed *furor operativus*, I carried his desire, to see surgery reduced to the inevitable minimum, to systematic execution, including more or less extraneous matters, which, however, had a direct bearing on surgical mortality and curative failures.

I have no "religion" in the common acceptance of the word. I am not affiliated with any church. I do not have to have, either, because, whenever I have a patient before me who suffers from a disease, the diagnosis of which is not absolutely certain or the character of which is not absolutely calling for operative therapy, I invariably ask myself: "Supposing you were he—what would you decide?"

And it is only when I feel that, if it were I in the patient's place, I should absolutely want my abdomen, chest or brain explored, I tell the patient the verdict of operative therapy.

Perhaps this is a course that produces neither glory nor heavy bank accounts, but, I have been living so many years without either, that I would not know what to do with them, now that I have passed two-score and ten. Thank heaven, I still have some ideals left.

If all this be true, there can be no doubt that I would not turn about in the management of the "Seminar." I go a step farther and maintain that I even had no opportunity for such a change of front.

My first idea was, to make the "Seminar" a means of developing surgical reasoning on problems of a diagnostic character. I did not desire to restrict, and have not restricted the problems to those that actually occurred in my own practice. If the latter predominated, the fault is not mine. Too few have come forward with their own experiences.

Lately, I have taken up operative problems. This, too, may have given the appearance that I can think of nothing else than surgical diagnosis and surgical technics. But, I have virtually only begun. I had to feel my way. It is for this principal reason that I asked for criticisms. *Aut Caesar aut nihil!* The "Seminar" was either to interest the readers and prove useful, or else be abolished.

For some time past, I had in mind the presentation of "borderland" problems. "Caduceus II"'s letter has served to strengthen my belief that this class of problems will enhance the value of the "Seminar." I am and (I am sure) we all are deeply grateful to our correspondent for his helpful criticism. But, as for the charge that the editor is a dyed-in-the-wool surgeon—I hope you all will agree with the verdict of—Not guilty!

Surgical Therapeutic Errors

In the July issue, we published a letter with the following inquiry: A man, about 30 years old, was treated in vain for symptomless hemorrhages from the bladder. Cystoscopy showed a papilloma. Therapy: Extraperitoneal incision of the bladder-wall showed several broad-based tumors. Excision of the area containing the tumors and longitudinal suture of the wound surfaces of the bladder in the axis of the body. Closure of the bladder incision with soft rubber drainage (intravesical). For three days, there was troublesome hemorrhage from the interior of the bladder.

Required: Source and cause of the hemorrhage.

Solutions:

Several solutions have been sent in, but, as they were presented without explanations, they cannot be published.

Dr. R. B. Gray, Bay Shore, New York, contributes the following very interesting solution:

Analysis of the case leads to nothing that can be attributed to the age (30) or the sex (male). Of the occupation, nothing is stated. If the patient is an aniline worker, this may be a cause, as the dyes are excreted by the urinary system and cause neoplastic growths in the bladder.

As it is stated to be a frank case of hemorrhage, no note need be taken of hematuria; but, at times, the etiology is the same.

Since hematuria is itself a symptom and not a disease *per se*, I can not see how we can have a symptomless symptom! Is it like *scarlatina sine eruptione?*

In my opinion, the patient was warranted in being "quite worried", for someone has written, *Blut ist ein ganz besonderer Saft.*

The writer may say that the blood came from the papilloma, but he did not put it in his letter. If it did, why did the bleeding continue after the operation?

The attendant did right in using the cystoscope for diagnosis, but it is here that he and I part company. Why did he not carry the idea to its logical conclusion and use a cystoscope in the treatment?

In his "Traité de Cystoscopie et d'Uréthroscopie" (page 361), Luys (English edition by Wolbarst, St. Louis, Mosby, 1918, page 330) says: "At the present time, it is considered neither rational nor reasonable to perform a suprapubic cystotomy for a small vesical papilloma, and even for larger papillomatous masses. The endovesical treatment must be considered the method of choice."

Under etiology, always bear in mind that the medicine may produce bleeding, as is seen in the use of formaldehyde compounds of whatever trade name.

Osler says that hematuria may occur in the following conditions:

Edemic fluke, Bright's, aortic disease, cerebrospinal fever, chronic interstitial nephritis, lobar pneumonia, polycystic kidney, pulmonary tuberculosis, purpura, haemorrhagica, relapsing fever, renal calculi, renal cancer, scarlet fever, scurvy, smallpox, splenic anemia, tuberculosis of kidney, melanuria; and, some say that catching cold produces paroxysmal bleeding.

Under treatment, I would suggest: Electric fulguration through cystoscope with periodic inspection of bladder.

If needed, radiotherapeutic; and, if better thought of, x-ray treatment with deep penetrating rays.

Try to remove the cause, if it can be done with safety and comfort to the patient.

Editorial Comment

Dr. Gray's highly instructive discussion again discloses him as a versatile writer and student.

While we are agreed with much that he says, we are confronting certain facts, on which alone we can base an opinion.

The question, when bleeding from the bladder can be called symptomless and when not, is a simple one, since it is not meant to convey thereby that hemorrhage is meaningless, simply because there is no distress, pain, dysuria, and the like accompanying the bleeding.

A contributor, who has the ability to open a bladder, excise a portion of it and close the wound, *lege artis*, can be assumed to know his métier and to have the ability to present all interesting facts intelligently. Even though I did not happen to know the contributor, as I do in this instance, personally, I would say to myself, the man is a surgeon of ability. His allusion to his surgical technic proves this conclusively. I mention this for the sole purpose of dismissing from our minds any idea that the excised area was not closed properly.

Now, we are not facing the problem of whether excision is preferable to fulguration, or vice versa. We are, however, up against this proposition: On an entirely correct diagnosis of multiple papilloma with broad bases, the tumor-bearing area is excised and properly closed. After the operation, there is bleeding from the depth of the wound, that is to say, from the interior of the bladder. What is the trouble? If there had been a varicose condition, if there had been any of the causes ably presented by Dr. Gray, our young surgeon would have given them, because, he undoubtedly, devoted a lot of thinking to the case during the annoying postoperative period. But, nothing is given; therefore, no tangible cause was found.

Yet, I, as editor, had the gumption to place this case as coming under a group to be headed as "Surgical Therapeutic Errors". (If others are sent in, we will number this one 1, and the others serially.)

But, in my opinion, the error was not in the selection of the therapeutic measure itself (excision) as in the method of closure of the wound.

Our correspondent is not to be blamed, since, in several American and English textbooks on genitourinary surgery, this particular subject is handled in stepmotherly fashion.

I write this on a Sunday afternoon, in my den, and I have but few literary sources available. Let us see what they contain.

Keyes (1903): Excision. "The only special features of the after-treatment are the prevention of hemorrhage and rupture of the bladder. Both of these dangers must be foreseen at the time of operation and prevented by adequate suturing."

J. W. Thomson Walker (1914): "If a number of papillomas are situated close together, the whole area of mucous membrane bearing them is removed in one strip. At the end of the operation, I treat the bladder with silver-nitrate solution, 5 or 6 percent; formalin, 1 in 300; resorcin, 10 percent, or other albumin-coagulant, with the object of destroying stray cells or microscopic papillomas. The bladder is drained through a large suprapubic tube and washed daily with weaker solutions of these drugs." (The wounds are closed with catgut, in the accompanying illustration).

It will be noted that ordinary suture is mentioned by both authors and, accordingly, our correspondent has undoubtedly followed this method in the usual manner.

Here is, however, where the error was committed, unintentionally, unwittingly and unavoidably; but error it was, nevertheless.

Permit me to present the "solution" in the manner in which I wrote the correspondent personally.

My dear Captain:—

It was a source of great pleasure to me to receive your letter, regarding your bladder operation. I am particularly happy that it is the "Seminar" which is the immediate cause of reunion with an old war-comrade. While

I shall publish your case, which has a decidedly interesting phase, (so as to afford our readers time for discussion), I embrace the opportunity to let you have my own frank opinion.

From a purely operative point of view, I recognize two classes of papilloma, namely, those with a narrow pedicle and those with a broad base. For the former, an extraperitoneal approach is sufficient, as then the patient is in the Trendelenburg position and, with good retraction, accessibility to the interior of the bladder is good.

As regards the latter class, many should be treated by fulguration. My rule is, when these tumors are not too large, to refer them to a urologist who has the proper equipment for fulguration therapy. When, however, the tumors are not only multiple but of large size, I prefer to do exactly what you have done. In excising each tumor, I begin by placing a long linen thread through the healthy mucosa on either side of the growth. These threads serve as guides and enable the operator to raise up the entire field so as to render it more accessible.

The excision itself is elliptical in shape. Now, beginning at the apex of the ellipse, a sharp knife cuts through the healthy mucosa adjacent to the tumor, but only a small piece at a time, which is immediately followed by suture of the little wound. Dissection is now continued and sutured for another short distance until, gradually, the entire area has been removed to the lowest point of the ellipse, when one suture terminates the operation proper.

It is only by this step-by-step excision and suture that absolute control of the hemorrhage is assured, rendering packing and postoperative irrigations unnecessary.

If you have any scruples as regards the danger of implanting tumor-particles into the operative wound—which is not an impossible thing—and if you are not sure that you can excise sufficient of the submucosa, I know of no better way than first to destroy the growth with the thermocautery and then to excise in the manner I have suggested.

I have done a very few of these operations, but so far have had no complications whatever. This, by the way, is a method which has proved excellent in the hands of Professor Vœlcker, of Halle, and is very much in vogue in Germany at this time.

Surgical Problem No. II

You are called to see a young man (25) who has been under care of a physician for a few days; but the latter tells you that he has been unable to arrive at a diagnosis.

A glance at the patient shows a seriously ill, rather emaciated looking young man, who appears to be half asleep and apathetic.

The history elicited by you is not satisfactory. The patient maintains that he has not been feeling well for some time, suffering from discomfort in the abdomen, but that he has been able to do work as a typesetter until a few days ago; when he began to lose strength quickly and had to take to bed. He tells you that, occasionally, he has diarrhea but, more often, is rather constipated.

You examine the abdomen first. There is no protrusion or irregularity of the contour. There appears to be a slight rigidity of the right rectus muscle and an irregular, ill-defined mass, or what appears to the feel to be a mass, in the right side of the abdomen. Deep palpation over the appendix causes the patient to say that he feels some pain there.

The face, as said, is expressive of apathy. The tongue is moist and not coated. The heart sounds are too faint to be interpreted. The lungs appear to be clear. Examination of the pulse proves futile—it cannot be felt. The patient gives intelligent replies to any question proposed and appears even curious as to what you have to say about his condition.

Required: Diagnosis. Treatment based on the diagnosis.

The General Practitioner

Talks About Professional and Personal Problems
Conducted by WM. RITTENHOUSE.

The Efficiency of Insufflation

J. D. S. writes: "When I was listening to your lectures on obstetrics, at college, you used to describe a method of reviving newborn infants who fail to breathe promptly; I have lost my notes, and should be glad to have you give your readers a description of the method, showing just how to use it."

Answer: The process to which my correspondent refers is insufflation. The longer I was engaged in the active practice of medicine, surgery, and obstetrics, the more I was impressed with the value and effectiveness of that procedure as a means of reviving infants in danger of asphyxia neonatorum, patients collapsing under anesthesia, or the victims of gas, smoke or drowning accidents. I have long felt that the advantages of this process are too little appreciated by the profession and many do not even know that there is such a procedure.

In the emergencies named in the foregoing, delay is liable to be fatal. A single minute may make the difference between life and death, and this is what renders insufflation of such supreme value; for, it requires no apparatus, is always ready and can be applied without a moment's loss of time.

Description

Insufflation means "breathing into", and this definition is as simple as the procedure itself. As its most frequent use is in resuscitation of the newborn, I will describe the details of such a case. With older patients, there is little modification of these details necessary; such as are needed will suggest themselves.

When a newborn infant does not at once breathe or cry, its pulse should be felt by compressing the cord close to the body between finger and thumb. If the pulse is vigorous, all is well; breathing will soon follow, especially if the child be suspended head downwards. It is an aid to blow upon the front of the thorax, as the current of air feels cool by contrast and tends to excite an inspiration.

If there is no umbilical pulse, press two finger tips under the edge of the ribs on the left side to detect heart action. If it is feeble or absent, insufflation should be begun at once.

Seize the infant by the ankles, suspending it head downwards. Compress the thorax to force any fluid out of the air passages; wipe out the mouth and throat with gauze wrapped around the little finger; then lay the child on a sloping surface with the head a little lower than the body; place a towel over its face to protect the operator's lips; hold its nose with finger and thumb to prevent the escape of the air blown in; all this more quickly than it can be written. Now place the lips exactly over the child's mouth, and blow with gentle force through the towel to inflate the lungs. At once compress the thorax with one hand to empty the lungs. This constitutes the whole process: alternately inflating the lungs by blowing into the mouth, and emptying them by pressure. This should be repeated about as often as slow breathing—say once every three seconds more or less.

Unless the infant is really dead, signs of revival soon become manifest. The skin takes on a pink hue, an occasional heart-beat can be detected, or there may even be a gasp for breath. If any of these signs are apparent, the insufflation should be continued a little longer until respiration becomes regular.

While this is being done, every possible means should be used to preserve the body heat. Heated flannels can be laid over the child's body without being in the way.

An important question is, how long one's efforts should be continued when no response is visible. It is not practicable to lay down any invariable rule, further than to say, do not give up too soon. I revived one infant after forty minutes of steady work. The symptom that encouraged me to persist was, a slight improvement in the color of the skin— a little tendency to pinkness. But the first real proof of success was a feeble gasp after thirty minutes of regular filling and emptying of the lungs.

At the end of forty minutes, there was spontaneous respiration. These figures are from memory, but they are substantially correct.

In similar cases, I have made comparative tests between insufflation and artificial respiration. In several instances, I have seen feeble heart action, which had been developed by insufflation, die out after changing to artificial respiration, only to return again on changing back to insufflation. This is pretty good comparative evidence of the efficiency of the two methods. The reason seems to me plain: In insufflation, the air *must* go into every part of the lungs because it is forced in; in artificial respiration the inflation of the lungs is often only partial.

In collapse under chloroform anesthesia, I have had a number of opportunities for observing its efficiency. A young man of twenty-four, while under chloroform for a minor operation, suddenly ceased to breathe, and no heart action could be detected. While an assistant tilted the table so that his head was considerably lower than his body (this is very important), I began to insufflate without a moment's loss of time. For seven or eight minutes, the case looked desperate, and then the death pallor gradually began to change to normal and, soon, respiration and circulation were fully reestablished.

In another instance, I had circumcised a boy of seven years. After the operation, but before consciousness was fully restored, we were about to put a dry night shirt upon him. While my back was turned for a moment, the father, not knowing what a risky thing he was doing, lifted the boy into a sitting position, with the result that might have been expected—instantaneous and complete collapse. With a group of wailing, hysterical relatives on my back, I did not find it a simple matter to carry out the measures necessary. But, by the use of some strong language, I brought the father to his sense enough to get some help from him in keeping the patient in proper position with head lower than the body, while I quietly and regularly produce alternate insufflation and expiration. The contest was a long one and, as I worked, visions of malpractice suits flated through my mind. I had almost despaired of success, when at last I saw signs of returning life, to my very great relief.

At another time, I had a case of pleurisy in a little girl of ten. The right pleural cavity had filled up with pus. I resected a rib and put in a rubber drainage tube. The patient did well, and the time was approaching when I hoped to be able to dispense with the tube. The child was feeling so well that her activity was greater than was good for one wearing a rubber tube in the pleural cavity. One morning, I found that the safety pin had pulled off the end of the tube, the greater part of which was lost in the thoracic cavity. After a few unsuccessful attempts to recover it, I put the child under chloroform, and finally removed the piece of tubing. I had hardly done so when breathing and heart action suddenly stopped. Ten anxious minutes of steady insufflation saved her life, and she is today the mother of a numerous and happy family.

One day, I entered the operating-room of the now extinct Illinois Hospital just in time to hear the operating surgeon say, "I'm afraid he's gone." The patient on the table had collapsed, and they had been trying unsuccessfully to revive him by artificial respiration. It was in the days before pulmotors had been heard of. On my suggesting insufflation, the surgeon replied that he was not familiar with it, and requested me to try it. I did so. In less than ten minutes, the patient was breathing.

I could go an enumerating similar cases, but these are sufficient to explain why I have such confidence in this procedure. I have never been able to understand why it has received so little attention from the profession.

Advantages

Its chief advantages are:

1.—It can be used at a moment's notice by anyone.

2.—Its simplicity, requiring no apparatus.

3.—Its thoroughness, forcing the air into every part of the lungs.

The first of these advantages is so important that it can scarcely be overestimated. Especially is this true in asphyxia neonatorum and in collapse under anesthesia. The delay of even half a minute may mean the difference between life and death and, certainly, diminishes the chance of success. Even the adjustment of a pulmotor takes a little precious time and, in many cases, perhaps most, the machine has to be sent for to a greater or less distance.

In one case where a pulmotor had been sent for, I used insufflation while waiting, and had the patient breathing when the apparatus arrived, somewhat to the disgust of the salesman who brought it. He missed his sale.

Objections Answered

The following objections to the method have been suggested theoretically by those not familiar with its use:

1.—It is asserted that we force into the lungs air which has been deprived of its oxygen, and which is loaded with carbon dioxide.

2.—We may injure the delicate tissues of the air cells of the infantile lung by using too much force, overdilating them.

3.—The operator might infect himself with certain diseases from the patient.

4.—On the other hand, he might infect the patient, if he were the victim of syphilis or tuberculosis.

The first objection has, at first sight, a certain degree of plausibility. But a little examination will show that this is more apparent than real. In fact, the objection as worded does not accurately state the facts. It is not correct to say that the insufflated air has been deprived of its oxygen. It has lost *some* of its oxygen, but enough remains to serve the purpose of reviving the patient, as is proven by the results.

If the doubter will refresh his memory by referring to any standard work on physiology, he will find that respired air has had only a part of its oxygen replaced by carbon dioxide. This fact is self-evident to any one familiar with the laws of the diffusion of gases.

If it were a question of a continuous air supply, there would be some importance in a reduced proportion of oxygen; but, as it is simply the problem of tiding over an emergency, it follows that, if the air breathed into the infant's lungs contains enough oxygen to serve the temporary purpose, that is all that is necessary; and experience abundantly proves that it does.

Another fact has been overlooked: When the doctor inhales a breath, and immediately proceeds to expire into the air-passages of the infant, the first air that enters is that which was in the doctor's mouth, pharnyx, larnyx, and trachea, and which had lost *none* of its oxygen. I am inclined to think that this fact is a real explanation of the prompt and satisfactory results obtained by insufflation. In every expiration of ordinary breathing, the first half of the expired air is but little contaminated with carbon dioxide, while the last half contains a larger proportion of that gas, and correspondingly less oxygen.

Objection number two is not a weighty one in my opinion. I have never heard of a case in which the air-cells were over dilated. They are very elastic, and very little force is required. If the thorax be held lightly between the thumb and fingers of one hand, the expansion can be plainly felt, and experience soon teaches the operator what a small amount of force is required to obtain that expansion. It may be assumed that any one intelligent enough to manage a labor case, would know better than to blow into an infant's lungs with all his might. In any operative procedure, we have to assume a reasonable degree of intelligence in the operator. Machines can be made fool-proof, but operative procedures can not be made so.

The other two objections, relating to the danger of passing infection from the patient to the doctor, or vice versa, may be disposed of in like manner. Possiby, syphilis or tuberculosis might be thus communicated, but only under circumstances of the grossest carelessness. The danger is practically nil.

I am not belittling the use of the pulmotor, nor of artificial respiration. The pulmotor is an efficient instrument when it is at hand and ready for use, but in a large proportion of cases it is neither at hand nor ready for instant use; and the time lost in sending for it, and even in adjusting it, may be of the utmost importance.

Of course, artificial respiration can be applied as quickly as insufflation; but experience has abundantly shown that the inflation of the lungs is more thorough and, consequently, more efficient by insufflation than by artificial respiration.

In the case of persons apparently drowned, it is of great importance, in addition to using insufflation, to get all the water possible out of the air passages and also out of the stomach, because the pressure of a stomach full of water would prevent to some extent the inflation of the lungs.

To do this quickly, lay the patient prone (i. e. face down) on the ground. Let one person stand astride of the body, facing towards the head. Put both hands under the body at the stomach line, and lift it about a foot from the ground, pressing and kneading the stomach with both hands. While this is being done, another person should lift the face slightly, bending the neck backwards, and should seize the tongue, pulling it out as far as possible. This gives free passage to the water that may be in the lungs or stomach.

This should be done quickly, and then insufflation should be begun. Lay the body on the back, on a slope with the head lowest. Apply artificial heat while insufflating; this is important. Do not give up too soon. Cases are reported of success after two hours.

In asphyxiation from gases of various kinds, plenty of oxygen is of the utmost importance. So, insufflation should only be used until a pulmotor can be obtained, with which air or, better still, oxygen can be pumped into the lungs.

To My Readers

Those correspondents who have not received replies to their letters during the last three months are hereby informed that the reason was a prolonged illness and vacation on my part. Those letters will be answered now as rapidly as possible. My thanks are due to the writers for their patience, and also for the many kind letters of appreciation which I have received regarding the "Boy and the Farm" in the July and August issues. It shows that many doctors were farm boys, and that they have not lost the warm spot in their hearts for the old farm and their boyhood's experiences.

2920 Warren Ave.

[*Continued from page 666.*]

"Can any Christian Scientist, osteopath, chiropractor or 'healer' of any kind name a single man who has done serious scientific work? The answer is obvious. Such men have nothing to offer except certain theories, which, they claim, will make possible the cure of all kinds of diseases. Have they standards of education? Is there a college degree (or any preliminary education) required before a student is allowed to enter such schools? . . . .

"The graduates of such schools have no knowledge of human anatomy or physiology and their success depends upon having patients who have little knowledge of the human system."

Since the science of osteopathy is recognized, by all who are informed, as a system of healing, the equal, at least, of drug therapy, its classification under the above-mentioned title is erroneous.

In the first paragraph herein quoted, Dr. Thewlis does not state his accusations as facts but makes insinuations by questions which I shall anwer in their order.

Osteopathy *has* not only a single man but an institution doing serious scientific work.

Osteopathic schools *have* a standard of education equal to that recommended for the Association of American Medical Colleges, as the enclosed comparison sets forth.

There *is* a standard preliminary education required for entrance into osteopathic colleges.

The statements in the second paragraph, concerning osteopathy are flatly false. Osteopathic schools spend more time in the study of anatomy in its various branches than is recommended for the Association of American Medical Colleges. The number of hours spent in the study and laboratory work of physiology is equal to theirs. The total numher of hours for the four years' osteopathic work is greater than that of said colleges. So, you see, Mr. Editor, none of the statements made by Doctor Thewlis apply to osteopathy, at all.

If Doctor Thewlis had so grossly misstated scientific facts, he would be ridiculed by every well-informed reader of his article. Shall misstatements injurious to a rival profession, made either through ignorance or by design, receive less rebuke? When I asked my medical friend the question, he replied, "There are always a few who will write such stuff and, occasionally, get by with it."

But, I am wondering, Mr. Editor, how the statements quoted were allowed space in a periodical of the high standing of THE AMERICAN JOURNAL OF CLINICAL MEDICINE. It seems to me such errors must lower the standard of your journal, very materially.

D. N. SHORB, D.O.

Bloomington, Ind.

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[In a clipping from "The Log Book," evidently a college publication of one of the osteopathic schools, comparison is given of the educational requirements of practitioners in medicine and osteopathy who are licensed to practice in Alberta and of chiropractors who are not licensed to practice in the province of Alberta. From these requirements, it appears that those demanded for admission to the study of medicine and osteopathy are virtually identical, comprising mainly high-school English, algebra, plain geometry, foreign languages, history, physics, general science, chemistry and physiography. On the other hand, not any of these requirements are insisted upon by the Palmer School of Chiropractic.

The fundamental studies in the healing art which are given in all schools and which range from anatomy and histology to psychiatry are given in this comparative list as consuming 7068 hours in medical colleges; 7078 hours in osteopathic colleges and 495 hours in the Palmer School of Chiropractic.

It must be admitted unhesitatingly that the osteopathic colleges not only demand proper educational qualifications from their students on admission to the college, but that they offer full courses of study which, in some instances, exceed those of medical schools. For instance, while medical colleges devote 128 hours to histology, osteopathic colleges give 180 hours. For anatomy, the comparative periods are 528 hours for medical, 722 for osteopathic schools. For physiology, 280 hours in medical colleges, 322 hours in osteopathic schools. In other

[*Continued on page 678.*]

Good Medicine

Let us learn as we go, but not forget what we know

Conducted by GEORGE H. CANDLER.

"You are old, Dr. William," the young man said,
"And your study of people's been long:
Don't you think that the women in this advanced age
Are going a trifle too strong?"

"In the days of my youth," Dr. William replied,
"My Granddad (I hope he sleeps well!)
Was oft heard to say that the girls of my day
Were undoubtedly headed for H—l!"

"I also recall," the old man reminisced,
"That at times with exuberant joy,
My Grandsire's brag, as his chin whisker'd wag,
Of the *affaires* he had, when a boy."

"You are gray, Dr. William," the young man remarked,
"Yet I note with no little dismay
That you wink thro' your glasses at each girl that passes—
Do you think that is strictly *au fait?*"

"In the days of my youth," Dr. William avowed,
"I winked at 'em just as they came,
So the habit got set and I wink at 'em yet
And I imagine I'm still in the Game."

MORAL: The old dog knows lots of the new tricks.

Oh! Man

"The Proper Study of Mankind is Man"

LONG, long before you and I *were*, some unfortunate who then *was* had this idea, jotted it down and it has become an aphorism. Personally, I am of the opinion—if the term MAN applies to the *living* subject (dead ones are simple)—that, the more you study him, the less you know and, the less you know, the more apt you are to pose as an "authority." You may have observed that there are an awful number of men and women studying MAN both as he is and as he might or should be, and the conclusions they arrive at are so varied as to make one vertiginous. Therefore, to clear the atmosphere and because I feel that I am just as good an "authority" upon this vital subject as anyone else, I purpose to say a few words which will, I trust, be understandable even to the uneducated, and fairly unobjectionable even to the unsophisticated. The *intellegentsia* and *cognoscenti* may, of course, criticize my method of presenting the deductions I have drawn, but they will hardly care to challenge their truth.

Let us begin by accepting that beautiful definition of Man as "a little lower than the angels, a little better than the brutes."

There can be no question but that is just what he *is*. Of course, I have never seen an "angel" and am not quite sure about his general makeup. But, basing my opinion entirely upon certain beautiful pictures I have seen and on highly imaginative descriptions I have (under threat and duress) perused, I feel convinced that MAN *is* "lower than the angel"—

quite a long way lower. Almost out of sight of 'em, indeed. Further, having enjoyed a reasonable degree of familiarity with "the brutes"—from hogs to horses and caterpillars to cows—I must admit that Man, as I know him, is most distinctly "a little better." True, there are exceptions that were more human than some *men* I have studied and, once or twice, I have encountered creatures masquerading as Men who *must* have come out of cocoons. A most ridiculous person once said that every human being resembled an animal, and proceeded to prove his point with illustrations. The unfortunate quadrupeds could not, of course, sue him for libel; but, had that been possible, any court of competent jurisdiction would have given judgment in their favor—with heavy damages. For, it is an adage in law that "the greater the truth, the greater the libel."

You know men who look like Hogs—but, would they make good breakfast bacon? I know women who look exactly like cats—but, are they any good as mousers? Not the least bit. Perhaps, we all, too, have some antique female relative who facially distinctly resembles a cow; but, could she be depended upon for dairy purposes or could some other, equine-appearing, member of the family be "ridden" with impunity? I wot not! When it comes to appearances, MAN is deceitful, ever. WOMAN perhaps worse than that. In other words, they may *look* only a *"little* lower than the angels"; but, most distinctly, they are not what they appear to be and, though they may seem a little like the animals ("brutes that perish"), they really are in that unfortunate condition known as *"betwixt* and *between"*—that is to say, neither one thing nor the other. A most humiliating position, I say. Just how MAN manages to draw such an undesirable position in the scale of creation, who can say?

That there may have been a common origin, would seem to be proven by the fact (1) that, when infants have "wind on their tummies" they smile in their sleep, angels then whispering to them words of comfort; (2) that there is more of the monkey in MAN than there is MAN in the monkey.

William J. Bryan may (as a matter or principle) dispute the first hypothesis, but I challenge him to successfully combat the second. Psychoanalysis will compel him to admit this as a living truth. One, indeed, of the few really viable ones today.

Still—if further evidence is needed—witness the desire so many aged men experience to incorporate *more* monkey into their make up. Just so they can "monkey" some more. "With age" they say "comes wisdom." Studying MAN "as he is," one wonders what particular kind of "hop" the creator of that old saw used? I would offer as an amendment: "With age comes that accommodating ape"—higher anthropoid, of course.

Having thus definitely demonstrated that MAN is neither a scion of the Seraphim nor a true shoot from the simian tree, we are confronted with the outstanding question, what *IS* he? For centuries, poets, priests and pedants have been advancing their views upon this subject; but it has remained for *ME* to present the true solution of the problem. Perhaps, the Sphinx also possessed definite knowledge along this line. However, so far, He, She or It (I never was certain of the Sphynx' gender) has failed to convey it—even to the trance mediums. So, my claim to priority stands. Before, however, I postulate my theorem, I feel constrained to dispute the growing impression that MAN may be defined as an "EGG"—hard boiled, soft boiled or scrambled, as the case may be. I have been deeply depressed by witnessing the unthinking general acceptance of such a classification. Had a fourth class been added—egg-*plant*—I might not have considered the grouping as so unjust. For, MAN—speaking of him as a species—*is* either Hard, Soft, Scrambled or Vegetative. That he is also *ex ovo*, moreover, cannot be successfully denied.

At this point, it may be well to recall the exquisitely expressive epitaph which appears upon the last resting place of an otherwise unknown English female:

"Here lies the body of Martha Crump
Who, when she heard the angels' trump,
Quick cracked the shell that held her in
And hatched herself a Seraphim."

The poetry is not above reproach, but the sentiment, to say the least, is beautiful. One gathers, quite definitely that, though Martha might have been shell-bound, she *scrambled* all right upon receiving proper encouragement. Doubtless, the adherents of the "egg" theory will regard this as proof positive of the correctness of their stand. Still, having better information, I cannot regard it as even *prima facie* evidence. One might as well accept the absurd though very common opinion that most Men are "nuts" because there are a lot of McNutts in Scotland! Upon just such fallacious reasoning are many of our ideas about things founded.

It may, of course, be granted that certain individuals merit the appellation "hard-boiled."

They *are* hard! But, is one, using such a metaphor, really justified in adding "egg?" The egg of the domestic hen should be spoken of affectionately—even reverently, at times. Without it, we could never have revelled in eggnog (they don't make them any more) and fresh and just "set" (three minutes) it greets us, a gold and white picture in crystal setting, when we have to meet the family at breakfast. Even hard-boiled it is welcome—especially with anchovy trimmings. Then, without considering the many other uses of the egg, remember that, from it—and it alone—we get chickens and, who would want to live in this dreary world if there were no chickens! "Somebody else; NOT me!"

MAN is *not* an "egg," and it is not fair to the egg to even make the comparison. Furthermore, he is *not* a "Fish," despite assertions to the contrary. Fish know enough to stay in their natural element; man doesn't. Fish get the worms; the worms get Man. Fish like sunshine filtered through water; man likes moonshine unfiltered and without any aqueous modification. Fish have no marital or family ties—man has (frequently). Yet, it is safe to say, there are more fish than there are men. Finally, fish have gills—MAN prefers *pints*.

Thus, seriatim, I have absolutely and forever disproven the "Egg," "Nut" and "Fish" theories. MAN is none of these any more than he is a Bird or Near-Angel. He is nearer to the Penguin (whom he very much resembles when in his "Soup and Fish") and has about as much chance of sprouting wings. Really, he is a *composite conundrum*—closely allied in many respects to the Duck-billed Platypus (*ornithorlyncus paradoxus*) a most interesting Australian aquatic and egg-laying mammal—though he does not possess that animal's gentle and retiring disposition.

His real origin is shrouded in mystery and the only thing he can safely claim is that he is a *product of environment*. His pride of ancestry would, undoubtedly, vanish could he be introduced to his earlier progenitors. That he dropped his tail, is not so wonderful an accomplishment—consider, if you please, the humble tadpole. Neither should he brag too much because he managed to get up on his hind legs and stay there. The kangaroo can go him a jump better—and, moreover, the Lady of that species has conveniences which count when one considers that baby-buggies cost money and money means work of some kind—for somebody.

But, somewhere, somehow, in some way, MAN acquired the one thing which lifted him above the other animated inhabitant of this planet—a *thinking mind* (ordinary intelligence other living creatures have in abundance) and, with that, he acquired *dominion*—and a lot of other, less desirable things. *Thinking*, he also *dreamed*, and the things he visioned in fancy he set about to materialize. Sometimes he succeeded; sometimes he failed; but the desire to Succeed and the fear of Failure made him unscrupulous and, in his march upward, he forgot many of the primitive decencies of the lower orders from which he had sprung and learned to lie, cheat, steal and kill—not as a matter of self preservation, but to increase his possessions and importance in the eyes of his fellows. He who could get the most, was the biggest, tens of thousands of years ago even as now. *How* he acquired wives, food or possessions, was something only still bigger men might ask. Those he despoiled might groan, but they "gave up" just the same. As time passed, it became more and more necessary for the strong, who would remain strong, to exploit the weak, and they proceeded more or less actively to do what was necessary. The history of MAN is one long sordid story of Wrong and Oppression and, though, like Beacons, really Great and Just MEN have frequently appeared to beard tyrants and secure more or less justice for the great mass of their fellows, the world has been run by a comparatively few individuals for their own particular benefit.

For many generations, now, of course, we have boasted of our "advanced civilization"—the Greeks did that, the Romans, the Assyrians, the Egyptians, and countless other "enlightened" nations—but, is MAN, the "Composite Conundrum" of today, very far removed from the original edition? We talk of loving our fellow men—DO we? Do *you* love men in the mass? Have *you* any real idea of how the other half lives? Did *you* ever back yourself up against the wall and search your own heart as to whether you were so living as to make other human beings happier or better? Are you really not inclined to get what you or yours want regardless of *how* you get it? And, don't you find yourself spending the active years of life in serving *self?* Are we not as individuals and communities narrow, self-satisfied, smug and *bunk-blinded?*

Don't we lie rather readily, cheat without very much compunction, grab anything we want and *can* grab without danger and gen-

erally break our own moral code—if we find it convenient? Won't we, too, without much hesitation corrupt those we ourselves have "set in authority over us" if, through that authority, they become dangerous to our personal welfare? In other words, has MAN yet reached a point where, as an individual, he will honestly live the life he—for his own comfort and safety—directs that others shall live? I venture to say that he hasn't. I am quite sure that most of us find much more satisfaction in finding holes in other peoples' coats than we do in mending our own. I am also certain that, if we needed a coat, we would not hesitate to take the other fellows—one way or another; provided, of course, that we could "get away with it." That is what man has been doing since he made his *début,* "getting away with it." And, the more deft and delicate his getting-away process, the more certain is his social standing and the larger are his possessions! MAN is "civilized," perhaps; but he is not yet *humanized.* Until he really is *that,* he will be a conundrum to those that study him—and, unfortunately, to himself also. For, he is, after all, a *product of environment* and most of us *are* just what most of those around us *are*—or at least what the seemingly successful ones appear to be. We, today more than a century ago, rather laugh at the so-called "simple virtues." We have *faith*—that we shall "get there"; *hope*—that the other fellow won't "beat us to it," and *charity*—when it doesn't pinch *us* to extend it. We excuse our shortcomings and unfairness by saying "If I don't, someone else will"—and that is perfectly true. They would!

We "trail with the herd"—if the grass is good; "run with the pack" (for safety) but slip off from time to time to make our own killings. We are in short MAN, the *composite conundrum* of the Universe—claiming kinship with God and shaking hands with the Devil.

The one hope is that, having evoluted thus far, we may evolute some more—in the right direction!

[*Continued from page 674.*]

branches correspondingly more time is devoted in the medical colleges.—ED.]

A CHIROPRACTIC VIEW

I cannot agree with you on the proposition that there can be a dislocation or movement of the transverse process of a vertebra, without a corresponding movement of the body. They are one and (outside of fractures) inseparable. To move any part is, to move the complete vertebra. Had you written (June issue, page 441) that, in your own case, there had been displacement in the articulation between rib and vertebra, then, of course, no exception could be taken relative to your statement.

We have several medical men in our ranks, but, personally, I believe that no *good* medical doctor would ever give up his practice and join our ranks simply to be able to give adjustments. To me, it is a wonderful thing to be a capable surgeon, a good physician, and a good chiropractor; not all in one, of course, but each in his line. Chiropractic is a wonderful study. It is a shame that surgeons have not investigated our claims and discovered, for their own benefit as well as that of the world in general, just how far disease is influenced by pressure on nerves through displaced vertebræ. Do you realize that, given a certain list of diseased organs, upon examination of the spine you will find, nine times out of ten, a displacement of the vertebra that controls the nerve leading into that organ? Try it out on your next case. Examine closely and, if there is some irregularity, don't hastily explain that it is too slight to be given any consideration. Predisposition is a great word and carries more weight than in years past, and it is not a far-fetched idea that nerves weakened from pressure can create a condition of predisposition to disease. I think our chief difficulty in convincing the medical profession, that there is any merit in chiropractic, is due to the fact that most of them will not admit that vertebræ can be moved. This position, however, cannot be taken by anyone willing to investigate and to determine the truth. Any good chiropractor can demonstrate to you in very short order that it is a possibility and is being done every day in every office.

I hope that you will continue your investigation of chiropractic. Our school clinics are available to you. The work may seem crude to you, but the principle is there just the same.

As to chiropractors giving drugs, I don't believe it is done to any great extent. It is all too true that the chiropractor would be more fitted or capable in caring for those that come to him, if our schools gave us a better opportunity to become more capable in making a diagnosis. The opinion handed down by some schools is not the opinion of the field, by any means.

G. A. R.

Let's Talk it Over

Active-Principle Materia Medica

With Physiological Effects and Therapeutic Suggestions

By WM. T. THACKERAY, M. D., Fowlerton, Texas

[*Continued from August issue, page 598.*]

Picrotoxin

A neutral crystallizable principle, representing the activity of the Cocculus indicus (Fish Berries) from which it is obtained.

Physiological effects: It stimulates the secretions of the salivary and intestinal glands, also those of the pancreas and liver. Peristalsis is increased, so that the alvine dejections are not only more frequent, but more copious and less consistent, and this occurs without hyperemia of the mucous membrane. Picrotoxin has also a potent action on the sweat glands, whose secretions it increases.

The heart action is slowed, the arterial tension somewhat elevated, and the movements of respiration are lessened, to become accelerated under the influence of spasm. It is alleged to act upon the cerebellum, medulla and spinal cord, while it claimed also, to the contrary, that the action is on the medulla and that the cerebrum and cord are unaffected.

Picrotoxin is eliminated by the kidneys and by the skin. Strychnine and Pilocarpine are antagonistic to some extent.

Therapeutics: Indicated in constipation dependent upon deficient secretion and paresis of the muscular layer, in paralysis of the sphincters, chorea, epilepsy, paralysis agitans, and tremors of chronic alcoholism. Very useful in the sick headache that occurs about the menstrual period and in the night sweats of phthisis.

Pilocarpine Nitrate

Salt resulting from the chemical combination of Pilocarpine (alkaloid) with Nitric Acid; the Pilocarpine being one of the alkaloids of the Pilocarpus Pennatifolius (Jaborandi).

Physiological effects: From its stimulating effects upon the secretory nerves, it provokes an enormous secretion of saliva and sweat; this is preceded by flushing of the face, if taken into the stomach; if used hypodermically the sweat appears first at the point of insertion of the needle. These two secretions are not equally abundant; if one is very copious, the other is scanty. If the perspiration is not well established, the secretions of the nares, bronchi, lacrimal glands and kidneys are somewhat increased and, occasionally, there are watery alvine dejections. The action of the heart is increased, but the arterial tension is notably diminished; a fall in temperature (0.5 to 2° F.) ensues; and the sweating is maintained, on an average, about four and a half or five hours. A sensation of chill commonly accompanies the decline in temperature, and nausea is not infrequently experienced at the onset of the action of the salts of this alkaloid.

All these effects are, with corresponding doses, much less intense in children than in adults.

Pilocarpine and its salts stimulate the gravid uterus, as affirmed by many observers. Hence, it should not be pushed in pregnancy, lest miscarriage or premature birth be produced.

Applied to the eye, it produces myosis, tension of its accommodative apparatus with amblyopic impairment of vision from diminished sensibility of the retina. The visual field is approximated to the nearest and furthest points.

About an hour or an hour and a half after its local use, the eye resumes its normal state.

Therapeutics: Indicated in the incipient stages of mumps, when it may abort the disease. After its full development it may prevent metastasis. Cardiac dropsy, pleuritis, hydrothorax, ascitis, bronchitis and asthma with profuse expectoration are often much benefited by this agent.

Useful, also to augment the secretion of milk, and in diabetes insipidus, glycosuria, scaly eruptions, prurigo, pruritus senilis, coryza and tonsillitis. Alopecia is successfully treated by local applications of this alkaloid.

It has advantages in certain affections of the eye, as chronic iritis, keratitis, glaucoma, atrophic choroiditis, hemorrhages and exuda-

tions of the retina.

Dosage: 1/64 grain every half hour to facilitate the removal of watery effusions, ten to twenty doses daily as a diuretic in uremia and acute or chronic albuminuria; eight to ten doses a day, in connection with a mercurial in syphilis. In all other acute diseases, one dose every thirty minutes or every hour until effect.

It is contraindicated in all affections of the gastrointestinal mucous membrane and in weak heart, due to disease of its muscular substance, or its contained ganglia, or of the valves.

Piperine

Alkaloid from Piper Nigrum (Black Pepper).

Physiological effects: A warm, carminative substance, which on being ingested provokes a sense of heat in the stomach, increased frequency of the cardiac beats, reduction in the number of respirations and a wide dilatation of the pupil. The mucous secretion is increased.

Therapeutics: Useful in anorexia from gastric atony, in chronic or subacute gonorrhea, and also in gastrointestinal irritation.

Dosage: 1/16 grain three to five times daily.

Podophyllin

Resin from the rhizoma and rootlets of Podophyllum Peltatum (May-apple, or Mandrake).

Physiological effects: Acts as a purgative, increasing the secretions of the intestinal mucous membrane, also of the liver. Whether administered subcutaneously or by the stomach, it acts on the bowels. Topically, it acts as an irritant.

Therapeutics: Useful in the congestion of the liver and of the portal circulation in ague, and in sick headache with biliousness. Also useful in habitual constipation due to torpor of the muscular layer of the bowel.

Dosage: 1/6 grain: one to three tablets at bedtime followed in the morning by a saline; or one or three tablets before each meal until effect.

Podophyllotoxin

The active constituent of Podophyllin.

Physiological effects and *therapeutics* same as Podophyllin.

Dosage: 1/12 grain every half hour for from two to six doses, as needed at night followed by a saline the next morning.

Potassium Arsenate

Physiological effects: Alterative and reconstructive.

Therapeutics: Indicated in anemia, leukemia and various dermatoses.

Dosages 1/64 grain, two, three or four times daily after meals. Use cautiously to effect.

Potassium Cyanide

Sedative; indicated in spasmodic, irritable coughs, which it relieves admirably. Respiratory irritation with hoarseness, harsh or croupal cough.

Dosage: 1/64 grain every three or four hours to effect. Use cautiously.

Potassium Dichromate

Physiological action: Alterative to mucous membrane, particularly of the upper respiratory tract. Relaxant, expectorant and mildly antiseptic.

Therapeutics: In hoarseness due to singing or speaking, and in pharyngitis, it is an effective remedy. In croup or capillary bronchitis, it should be pushed to effect. It is particularly useful, in combination with Aconitine, in sudden attacks of tonsillitis.

Dosage: 1/64 grain dissolved on the tongue to relieve the hoarseness due to singing or speaking. 1/64 grain in combination with 1/800 grain Aconitine, in acute tonsillitis, every half hour to effect.

Potassium Permanganate

Physiological action: When brought in contact with any albuminous tissue, permanganate of potassium instantly loses a part of its oxygen. This renders it destructive to the protoplasm with which it comes in contact. The certainty of its decomposition, the moment it touches the walls of the stomach, has led many to deny the reports of its effect in anemic amenorrhea. Nevertheless, there is abundant evidence as to its efficacy in this malady. No other preparation of manganese has won repute in this disease; but we have not been able to find any evidence that any other salt of this metal has been sufficiently tried. (Waugh and Abbott.)

Therapeutics: Used with more or less benefit in diabetes mellitus, diphtheria, scarlet fever and other essential fevers, on the theory of its oxidizing powers. It is essentially the remedy in anemic amenorrhea. The patient should take iron arsenate during the intermenstrual period and, four days before the expected flow, take ¼-grain doses of the permanganate every two to four hours, continuing until the discharge appears or the time is past. (Waugh.)

Dosage: ¼ grain *pro re nata.*

Quassine (Crystals)

A bitter principle, neutral, obtained from

the wood of Quassia Excelsa.

Physiological effects: Bitter stomachic tonic, devoid of astringency. Promotes appetite and digestion and, to a certain degree, increases the intestinal glandular secretions.

Therapeutics: Useful in dyspepsia (atonic), anorexia and other stomach affections due to relaxation. In convalescence after fevers and debilitating diseases, administered conjointly with dilute mineral acids or granules of Phosphoric Acid it is of valuable assistance. It has been found peculiarly adapted to the dyspepsia of drunkards. Quassine administered in connection with Hyoscyamine and Morphine corrects the narcotic effects of these alkaloids.

Dosage: 1/64 grain *pro re nata.*

Quinine Arsenate

The salt of an alkaloid obtained from the bark of various species of cinchona. Contains practically 70 percent of quinine and 15 percent arsenic acid.

Physiological effects: In small doses, its action is analogous to that of quinine sulphate, but, in large doses, besides the effects common to the other salts of the same alkaloid, others of a more toxic character are shown which emanate from the presence of the arsenic acid.

Therapeutics: As both elements of this salt are synergists in their antiperiodic action, it follows that it is indicated in all diseases manifested by periodic paroxysms, either pyretic or apyretic, malarial or otherwise. It is also useful in affections of the liver and spleen depending upon malaria.

Dosage: 1/6 grain every half hour during the remission of fevers of a malarial character and periodical neuralgia; ten to twenty doses per day as a prophylactic against malarial fevers, and 1/6 grain every two hours in skin diseases with evening exacerbations.

Quinine Ferrocyanide

This salt, constituted by the elements, Iron, Hydrocyanic Acid and Quinine, partakes of the sedative and antispasmodic action of the acid and of the hematinic and antiperiodic action of the iron and quinine.

Therapeutics: In the apyrexias of malarial fevers, this salt of quinine stands unequalled for its beneficent effects. Indicated in paroxysmal neuralgia, in connection with aconitine; in whooping cough in connection with codeine.

Dosage: 1/64 to 1/6 grain, the smaller dosage and up to the larger dose several times daily *pro re nata* to effect.

Quinine Salicylate

This salt aggregates the properties of both the acid and the alkaloid, both as an antiseptic and an antiperiodic.

Physiological effects: In small doses, it energizes the functions of digestion and assimilation, like all bitter tonics; if these are frequently repeated, it produces cinchonism, slows the cardiac action, depresses the respiratory function and lowers the temperature.

In large doses, its action is more irritant and toxic than the other salts of quinine, the arsenate excepted.

It is indicated in rheumatism with periodical paroxysms, in atonic dyspepsia, and in infectious diseases.

Dosage: 1/6 grain twelve to sixteen a day in inflammatory rheumatism, typhoid fever and in miasmatic and zymotic diseases.

Quinine Valerate

Physiological effects: By means of the Valerianic acid it acts as a sedative of the nervous system; at the same time, the quinine exercises its properties against periodicity and malaria.

Therapeutics: Indicated in periodical manifestations of spasm, pain, or fever, chiefly when there is irritability of the nervous system.

Dosage: 1/6 grain *pro re nata.*

Saccharin (Soluble) (Sodium Saccharin) (Abbott)

This salt is equal to 400 times its weight of sugar, 1/6 grain being equal to the average lump of sugar.

Saccharin being devoid of all fermentative properties, it should be always used in sweetening the drink or medicine of those suffering from serious enteric disorders of whatever nature, or from diabetes and especially of those inclined to superfluous fat.

It may also be used for sweetening where the use of sugar is liable to produce digestive disturbance or is objectionable from any cause. (Waugh and Abbott.)

Sanguinarine Nitrate

Salt of the alkaloid obtained from the root of Sanguinaria canadensis (blood root).

Physiological effects: Tonic, aphrodisiac and cardiac stimulant in small doses. Large doses sedate the heart. Exerts a selective influence upon all mucous surfaces and is useful, therefore, in bronchitis, laryngitis, dryness of the throat.

Therapeutics: Is of service in catarrh with little or no discharge, and in atonic conditions of the gastric and respiratory mucosa generally.

In some cases of amenorrhea, likewise a sexual frigidity, especially in the female, or where, in either sex, the circulation is feeble and the extremities cold, administration of the

drug proves of value.

Dosage: 1/64 grain as a stimulating expectorant every half hour to effect, continued at longer intervals *pro re nata.*

As a tonic and cardiac stimulant, 1/32 to 1/12 grain three or four times daily as required.

In sexual frigidity, 1/6 grain every three or four hours, the last dose at bedtime. May be combined, especially in the female, with Anemonin or Neuro-Lecithin. (Waugh.)

Santonin

A crystalline neutral principle from the unexpanded flower-heads of Artemisia Marituria (worm seed).

Physiological effects: In small doses, it produces no perceptible physiological disturbance. However, if these small doses are frequently repeated, there is a peculiar derangement of vision, so that at first everything appears bluish and afterwards yellowish or greenish-yellow; the bluish is but transient, the yellowish more lasting. The quantity of urine is augmented and the desire to urinate more frequent; sometimes, in children, it may give rise to incontinence of urine. Santonin is eliminated as a sodium salt in the urine and colors it yellow; if the urine is rendered alkaline, it becomes blood red.

These colors are probably the product of oxidation of Santonin and the transient blue color in the vision is usually regarded as due to stimulation and subsequent paralysis of those fibers of the retina by which blue light is perceived.

In large doses, it causes headache, giddiness, vomiting and sometimes death by convulsions, with a tendency to paralysis of the respirations between convulsions. Hence, in a case of Santonin poisoning, it is necessary to use chloroform inhalations to lessen the convulsions, and to maintain artificial respiration.

Therapeutics: Indicated in ascarides lumbricoides (round worms), ascarides vermicularis (thread worms), iritis, iridochoroiditis and choroiditis with plastic exudation. Also in some forms of amenorrhea and in epilepsy from intestinal irritation.

Dosage: 1/6 grain to 1/2 grain at bed time, one or two nights in succession, followed by 1/2 grain of calomel or a tablespoonful of castor oil, in intestinal parasites; 1/6 grain every two hours until effect, in affection of the eye; and from eighteen to twenty-four doses daily in amenorrhea.

Scillitine

Acrid bitter alkaloid from the bulk of Scilla Marituria (squill).

Physiological effects: In small doses, augments the bronchopulmonary secretions and likewise the renal secretions. In large doses, acts as an irritant emetic or emetocathartic, producing considerable prostration.

Therapeutics: Useful in bronchitis or bronchopulmonary affections with scanty expectoration, or with difficult, glutinous sputum. Also in dropsical effusions due to cardiac affections.

Dosage: 1/64 grain every hour or two as an expectorant and 1/32 grain every three or four hours as a diuretic.

Silver Iodide

This salt is advocated by many competent clinicians as an effective remedy in pertussis. Curative results have been secured within ten days by the use of 1/6 grain, three or four times daily. Calcium Sulphide is an essential alternate in the earlier stages. (Abbott)

Silver Oxide

Physiological effects: Tonic, alterative, antiseptic, irritant in full doses.

Therapeutics: Indicated in gastralgia, gastric catarrh, gastric ulcer, chlorosis, chorea, dysentery, and some forms of epilepsy.

Dosage: 1/12 to 1/6 grain, as indicated, before each meal. Effect should be carefully observed, to avoid overdosage. (Abbott).

Sodium Arsenate

Chemical union of Sodium and Arsenous Acid.

Physiological action: Alterative, tonic, antiseptic and antiperiodic.

Therapeutics: Indicated in malaria, anemia, chorea, general debility, and nervous diseases.

Dosage: 1/64 grain to 1/16 grain, three times daily. Larger doses may be given every two hours in malaria and in severe forms of anemia, to effect.

[*To be continued.*]

DR. BRYCE'S TALKS

About Consultations

In the course of our professional work, we meet conditions demanding consultations with our medical colleagues over obscure or difficult cases, and, as these meetings of medical men involve so many delicate possibilities and have been causative of some serious differences between formerly good friends, I will mention a few cautions that might be observed in regard to all consultations between physicians, regardless of friendship or other considerations.

In the interests of the younger members of our profession, I am going to say at the

start that there is no way by which a medical man can so surely break himself up with a family than by asking for or accepting a consultation with the wrong kind of a doctor!

When you call a doctor to consult with you, you let him enter your fortress and show him your hand. He knows your diagnosis, your line of treatment and its unsatisfactory results —all before he has committed himself in any manner. If he is an honest, ethical gentleman, he will tell *you* privately just what he thinks and will suggest any measures that he may believe advisable; and he will tell the patient or his family, *in your presence,* that he fully approves of your conduct of the case. It makes no difference how much you have blundered, he is there to protect you and to help you to cure your patient. If he is a crook, he will pretend to you to endorse your course, but he will by some underhand methods let the patient or family understand that "it was lucky that *he* was called in time."

It has been my misfortune to have had several unpleasant consultations in the course of a long practice, and I am serious in my advice on this subject to those who may yet have some things to learn. There is a vast difference between a consultation asked for by the attending physician for his own satisfaction in treating a doubtful case, and one thrown upon him by patient, family or (more often) through outside influences.

One thing a physician should always bear in mind when a consultation is asked for by patient or family: It is, that there exists a doubt as to the correctness of his diagnosis and treatment, a lessening of faith in his ability to safely conduct that case further. Just here is where I have always somewhat resented the suggestion when coming from the family, although we should make allowances for natural anxiety and decide the question from our own viewpoint. If we accept a consultation, which we certainly should in very grave cases, it remains for us to be satisfied with the physician with whom we are asked to consult. As a rule, where the family has the proper regard for your feelings, they will always leave the selection of the consultant to you, and in this case you have no cause for objecting. It will be in good taste to name some physician of your choice and ask if he will be entirely satisfactory to them.

But, it is entirely different when a consultation is requested by the family and they name the physician whom they desire you to meet. This is little short of a request for you to retire from the case, and it is a situation that I have always promptly met by immediately withdrawing.

As it is pretty safe to judge others by one's self, I may better outline my ideas of certain things to be guarded against in consultations by giving a few experiences of my own:

Thirty-five years ago, I was in attendance upon a poor girl who had reached her third week of typhoid fever and was just at the critical turning point. She was prostrated, tympanitic, flagging and failing; but had a chance. She could be aroused from her stupor and would take her eggnog, milk or broth and sleep on. Her temperature was giving way a little and her parched and cracked tongue was becoming a little moist. She was on dangerous ground but had a fighting chance. At this stage, a meddling relative persuaded the family to have consultation. They named a physician and asked that he be called and meet me in the case. He was a fine specimen of the "old school," with a good opinion of his ability, and had certain ideas of his own, one of which was, that there was no such thing as typhoid fever, all cases called thus being continued fevers due to defective action of the liver, with malarial poisoning. Our meeting was pleasant and, when we had examined the poor girl and retired for consultation, he said: "Doctor, you are all wrong; that is a case of bilious remittent, and she will die unless you rouse that liver. I would give her 5 grains of calomel every two hours until she has taken 20 grains."

That was about 3 o'clock in the afternoon, and I told him I could not endorse such recommendation, as I felt sure it would kill her; but I would state my objections and let the family decide, which he knew would be in his favor. I told them in his presence that we differed to such an extent that we could not cooperate in the case, and that only one of us could attend her. They promptly decided that they desired the consultant to carry out his views. The old physician was an ethical gentleman and promptly declined to take the case unless I remained in attendance. I was in an embarrassing position, for my withdrawal from the case would have prevented them from obtaining the services of a physician they had faith in and wanted. So I said to the doctor in the presence of the family: "Tell them exactly what I have told you, and I will remain with you as long as she lives, but only as an observer." He told them, like the square man he was, that I had said I believed the plan he proposed would kill the patient as surely as if he were to shoot her

dead with a shotgun, but he believed it was the only chance to save her life, and "I will stand between you and God Almighty if she dies, doctor!" So she swallowed her first 5 grains of calomel and was due to take the 20 grains by 9 o'clock that night. We parted with the understanding that we see her by 11 next day. When we arrived at the house next day, we found the blinds closed and the black signal tied to the door knob.

That consultation could have been better arranged by simply following the Code of Ethics literally; for, when we disagreed, a third physician should have been called and the dissenting one should have withdrawn. As it was, the poor girl died and neither one of us had the satisfaction of being endorsed by the other, while the distressed family were in doubt whether they had been right or wrong in their decision.

I recall another consultation conducted strictly along the established ethical lines and with more pleasant results: When I was quite a young practitioner, there lived in this city a prominent, well-established physician who was slightly related to me, but who practised in an entirely different class—his clients were rich and aristocratic; mine were at that time mostly "po' white trash and niggers"; so that we seldom met in practice. Sometimes, I called him in to see patients with me when I was in trouble, but he *could not* call me into his cases without embarrassment. However, he was clannish and threw all he could in my hands. So, I was not surprised, one morning, when I received a note asking me to meet him in consultation at 10 o'clock at a fashionable and wealthy home in upper Franklin street. He was a strict observer of the Code of Ethics, especially in consultations, insisting on every formality required. All met promptly at the hour designated, and I noticed that I was the *fifth* doctor in the bunch. It seemed that the first physician called in failed to agree with the attending doctor, and they called a third one who disagreed with both, so that, on this morning, two more were called; and I was the fifth man and by long odds the youngest of them all.

The old attending doctor was a great stickler for exact formalities, and conducted this meeting according to Hoyle. He met us exactly on the hour, conducted us into the parlor and explained that he had been requested to call consultation; that he had allowed the family to name the doctor and that they disagreed; that he requested the family to name a second consultant, and they, all three, disagreed, and they had suggested that *he* call two more of his own selection in the hope that somebody might be able to get together and conduct the case. He refrained from giving us the history of the case so as not to bias us. He led us into the sick man's room and gave him a cursory examination, then asked Dr. A. to examine him; then he called upon Dr. B. to do so, and then Dr. C. Finally, as each physician made his examination and stood aside he called upon me to "look him over Dr. Bryce and tell us what to do."

The patient was a young man, probably twenty-one or twenty-two, apparently, and had been in bed several weeks with a half diarrhea, no appetite, some little temperature and great loss of strength and flesh. He had headache and wandering pains in his abdomen. When we all retired for the summing up, it reminded me of polling the jury, as the old doctor put the question to each in the order of our entry in the case.

"What is it, Dr. A?"

"I stick to my diagnosis of yesterday," said he. "It is tabes mesenterica."

"How about it, Dr. B?"

"Dam fi no," said he.

"Well, Dr. C., what do you think?"

"Looks like a mongrel typhoid fever," said Dr. C.

I was the last man to express an opinion, and I noticed that they all had a rather amused smile on their faces as the attending physician said, "Well, Doctor Bryce?"

By a strange coincidence, their patient was really *my* patient, or had recently been under my attention, and here is the story I gave them: "Three or four weeks ago, this young man came to me for treatment. I told him to go home and take to his bed, to keep his bowels open with epsom salts, to eat light and unstimulating foods, to keep himself sexually cool on bromide of potassium, and to take a good dose of a nauseous balsam copaiva emulsion three times a day; to stay in bed and send for the old family doctor and tell him he was out of sorts; to secretly take my medicine and throw away what the old doctor prescribed and he would get well in the shortest time."

"Under this line of treatment, I am not surprised at his present symptoms. Now, gentlemen, can we agree upon a diagnosis?" They responded in chorus that we all agreed in diagnosis and treatment! The attending physician said: "Well, there is safety in a multitude of counsellors, even if one of them is a clap doctor."

Consulting With a Crook

This is an example of consulting with the wrong kind of a physician in an effort to hold a case, which is always a mistake. Long years ago, there practiced in this city a young friend of mine, a competent and ethical man, very small of stature, red headed and quick tempered, but withal a splendid fellow. He was attending a very well-to-do patient who was not responding to his remedies as satisfactorily as the family thought he should, and they asked him to call in a consultant whom they named and who was not at all to the liking of my friend. He came to see me and told me:

"Those durn people are going to force a consultation on me, and I have no use for the fellow they wish me to meet."

"Well, why not refuse to meet him?" I asked.

"Because, if I decline to meet him, they will discharge me."

"If that is the state of affairs, you will be finally kicked out of the case anyway," I told him.

Still, he met him and, of course, the consultant flatly disagreed with the attending physician and they both retired from the case, giving the family the opportunity of calling in some other physician. This procedure was entirely ethical and proper as far as it went. But, next day, the consultant was called to take charge of the case, and he *just kept on with it until something happened,* which wasn't long, after our friend found out what was going on.

The doctor who did this unscrupulous thing was a big burly fellow, with the reputation of being a "scrapper" on slight provocation, and he usually resorted to the expedient, for getting out of his dirty work, of raising a row and bullying more modest men into letting the matter drop. However, dear "little Jimmie D.", as he was affectionately called, was not made of the back-down stuff, and I knew that there was going to be a meeting of these two doctors, not exactly according to the medical code.

It was only a few days before these two doctors met, and the meeting was short, sharp and decisive. Unfortunately and accidentally, I was a witness of what took place; for, one afternoon, as I turned into a cross street, I saw my friend and the mongrel doctor who had behaved so badly approaching each other. I was too far off to prevent the collision that I knew was imminent. As they met, I noticed the big man extend his hand. Dear "little Jim" stepped back and said something I could not hear, but I heard the big man say: "You are a liar." Then I saw Jim whirl his cane, heard a whack, and the big fellow spun around three or four times like a partridge shot in the head, and, finally, fell up against a house side, gradually crumpled down upon the pavement and rested quietly. I ran up and told Jim that I hoped he had not killed him.

"Where did you hit him, Jim?" I asked.

"I tapped him on the forehead," he said.

The man was bleeding freely from nose and mouth and I told Jim to go home and I would look after the man and report. I washed his face and called a carriage and sent him home.

Just before leaving me, he said: "I haven't any hard feelings towards that little doctor friend of yours; I don't intend to have him arrested nor to see any more patients of his either in consultation or otherwise. But, when you see him, ask him what in hell it was that he hit me with."

It is funny how things happen in this world. I lived to see both of these men reconciled and good friends and they exchanged courtesies in consultations afterwards. They both have passed over the river long ago and, I hope, are where all good doctors go.

Long since, I made it a rule for myself to consult with no man I did not like, nor with any man selected by the family as my consultant, unless he was a personal friend. I always retire from a case when the family request me to call a particular doctor in consultation. I never enter into consultation concerning the patient, in the presence of any one except the doctor or doctors who have seen the case. I never ask any consultant, however friendly he may be, to call in and see the patient, any time, in passing. I make it a rule never to become the family physician of any family with whom I may become acquainted through a consultation. I consider consultations in many instances hazardous alike for patient and attending physician!!

C. A. Bryce.

516 N. Tenth St.,
Richmond, Va.

IMMORTALITY

I was profoundly impressed by the article, in the June (p. 434) issue of Clinical Medicine, detailing views on a life hereafter and presenting a letter on the subject from the eminent Dr. W. W. Keen, of Philadelphia. It is indeed a moving spectacle, the humility

of this great man in the presence of American mothers who had lost sons in the Great War, and his earnest desire to speak words that might console and comfort the hearts rent by sorrow. I think that there is no more reliable criterion by which one may judge true greatness than this same spirit of humility that is so beautifully shown in the letter referred to.

The subject "Immortality" is one of supreme interest; I think more so, or at least over a broader expanse of the earth's surface, since the World War. The world is demanding proof of immortality as never before.

Unfortunately, our philosophy on this point is all *a secundo,* our logic all deductive. Yet, to the thinking mind, it can be in no way less satisfactory proof because of that.

All nature proves it, the inorganic and the organic worlds attest it. In chemistry, we have the law of "the indestructibility of the atom." The atom is immortal. Burn a piece of wood, smoke and other gases pass out and ashes remain. Yet, is the wood destroyed? No, the atoms which composed it are now disseminated and for the most part invisible but could, under proper conditions of pressure, be reassembled and the same piece of wood would exist again visible to the eye, exactly as before.

We have the moving story of a servant of the ancient king who, having accidentally dropped the royal goblet of silver into a vessel containing acid, wept inconsolably as it slowly disappeared from his view. The wise man inquired into the cause of his grief and, on being told, he assured the servant that the coveted goblet could be recovered by the action of chemicals and rendered far more beautiful even to the eye than before; nothing had been lost, or destroyed, every atom was there; bright and sparkling, if only, by the deft manipulation of the forces of nature, the individual atoms formerly composing the goblet were again assembled.

Yet, you say, the atom is subject of theory. So, the belief in the soul of man is based on theory.

No one has yet seen an atom; no one has yet seen a soul. As already stated, we are on purely theoretical grounds; but does that fact make us less certain of the truth of our logic? It does not. Nothing then can be lost or destroyed in nature. The atom is immortal. The most valuable of the chemical components of this earth is the atom. The most valuable part of the plant is the atom; the most valuable chemical component part of the animal body is the atom, and this same atom, whether a chemical component part of organic or inorganic substance, is eternal—immortal—and can never be destroyed. But, as the plant, composed of chemical atoms, exceeds in importance in the earth's economy the inorganic mass, also composed of chemical atoms, so the animal body composed, as it is of these same chemical atoms, exceeds in the scale of the cosmic importance the merely plant world. And as we go higher and calculate the relative importance of the different species composing the animal world, we must come at last inevitably to man, the most important of all the creations on this mundane sphere. And, yet, man's body is an animal body composed, like the other divisions of this earth's cosmic forces, of the agglomeration of simple chemical atoms.

Then, why is he of supreme importance, why of greater importance than the rest of the animal world or the plant world? Not because he possesses life, for they possess life in varying degrees. It is because he possesses the power of control of his life; of which his power to laugh, to think, to talk and to pray are examples; and, in this connection, it is to me a thought fraught with the most profound significance that almost contemporaneously with his power to think and talk appears his desire to pray! Man has been called the praying animal! Stimulated by what force is within him, then, does man pray? for, we have no evidence that any other animal prays. Is it not because of the possession of a soul? Certainly, it is because of the possession of some one thing, or force, that the animal world and the plant world and the chemical world do not possess.

We are per force driven to the assumption that the most valuable part of man is not his body, is not his life, but that invisible and theoretical, that vital analog of the chemical atom —the soul.

Then, since we know that the atom—that most valuable element in the chemical cosmos of the world, organic and inorganic—is immortal and cannot now or ever be destroyed, would it be a sane conclusion on the part of any logical-minded man to reason or to believe that the soul, the most valuable part of man, who in turn is the most valuable part of all the cosmic elements on this mundane sphere, that the soul, I say, should then be the only thing to be utterly and absolutely destroyed from off the earth with no possibility of ever being restored? An answer is hardly necessary. I think that the reasoning mind of any who may have followed me thus far, will at once render a firm negative. The argument for the soul stands and with it stands the argu-

ment for immortality.

I am delighted, Doctor, to have had this opportunity to convey to you my thoughts on this all-important subject, and if I have not drawn them out at such length as to impose upon your time, I shall be further greatly pleased.

J. A. DUNGAN.

Greeley, Colo.

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[We doctors do not often think "out loud" on this much discussed subject. We are supposed to hold the position that we can not accept the existence of something which we can not demonstrate under the microscope, with the scalpel, or by means of chemical reactions. Yet, we, personally, believe that there are few physicians who actually are materialists in that restrictive sense. We see too much of the human mind and spirit to deny their existence outright. Even as scientists, there are too many things passing beyond our ability to explain, that we could afford a categorical "That is not possible" with regard to the question discussed so ably by our correspondent.

Nor can it be said with justice that such a discussion does not properly belong in a medical journal. Physicians are human, with all human attributes, feelings, sensations, ideas. Surely, coming in close "soul-contact," as it were, with so many sick people, sick minds, sick *souls*, it is proper and even necessary for us to take position on this question.—ED.]

A GOOD OPENING

There is a good opening for a doctor here. A large country practice in the best section of the "Inland Empire." Dr. Stoneburner, one of your readers, had a large practice until he died. A good man would have no competition. We hope you can send us one.

A. H. SMITH & SONS.

Leland, Idaho.

ELECTRO-PHYSIO-THERAPEUTIC CONVENTION

The American Association for Medico-Physical Research will hold its Convention, September 27, 28, 29, Thursday, Friday and Saturday, at the Sherman Hotel, Chicago, Ill.

This Association is composed wholly of medical men. Each year, a different subject is dominant. It, however, seeks to foster, develop and standardize physical methods in diagnosis and treatment among medical men.

This year is to be devoted to the presentation of the popular methods of Physio-Electro methods of treatment. This is peculiarly fitting, for we claim that this society first popularized and then furnished many of the men and methods so successfully used in reclamation work among the soldiers during the World War.

The program, this year, includes men of national import and members of the society, who are authorities in their lines. Among the subjects are, Advanced Diathermy methods, Electrocoagulation of Cancer Growths, Tonsils, etc., Rœntgen, Thermo, Chrome, Minim, Radiant Activities Vibration, Tension, Concussion, Mechanotherapy of Spine. Few men have attended our meeting who have not returned home with many new, health-restoring, money-making methods as their reward.

We present a short course on the laws of healing forces, by a master who understands the real basis, of socalled mental healing. This will alone be worth many dollars, and will offer a scientific basis for future work.

The electronic theory and practice has awakened a furore among medical men and the laity, both pro and contra. The society, this year, will present an exhibit of ten machines from different firms, utilizing the new Radio Wave and Electronic currents in the treatment and diagnosis of disease.

In addition, a section has been given over to the frank discussion, both pro and contra, from men who have been experimenting and treating with this modality.

This society neither endorses nor condemns, but feels its importance enough to present a platform of free discussion and research.

We invite all medical men of good standing to attend and affiliate. We anticipate an overflow attendance and advise early registration. Programs on request.

EDWIN S. ANTISDALE, M. D., Sec'y,
Marshall Field Annex,
Chicago, Illinois.

S. EDGAR BOND, M. D., Pres.,
Richmond, Indiana.

UNITED STATES CIVIL SERVICE EXAMINATIONS

The United States Civil Service Commission announces the following open competitive examination:

Junior Medical Officer

Applications will be received until December 28. The examination is to fill vacancies in the Indian Service at entrance salaries ranging from $1,000 to $1,200 a year, plus the increase

of $20 a month granted by Congress, and quarters, heat, and light; in the Coast and Geodetic Survey, at an entrance salary of $1,020 a year, plus the increase of $20 a month, and an allowance of $1 a day for subsistence while serving on board ship, except in the Philippines, where the allowance is $2.50 a day; and, in the Panama Canal Service, at an entrance salary of $250 a month.

Applicants must have been graduated from a medical school of recognized standing; or be senior students in such institution and furnish proof of graduation within six months from the date of making oath to the application.

Competitors will not be required to report for examination, but will be rated on their education, training, and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the postoffice or custom house in any city.

The United States Civil Service Commission announces the following open competitive examination:

Graduate Nurse

Graduate Nurse (Follow Up)

Applications will be received until December 28. The examinations are to fill vacancies in the Veterans' Bureau and in the Indian and Public Health Services. The salaries in the Veterans' Bureau range from $1,680 to $2,500 a year; in the Public Health Service, from $720 to $1,344 a year, plus the increase of $20 a month granted by Congress, and furnished quarters, subsistence and laundry. The entrance salary in the Indian Service is $840 a year, plus the increase of $20 a month, and furnished quarters, heat and light and laundry of uniform.

Applicants must have graduated from a recognized school of nursing requiring a residence of at least two years in a hospital having a daily average of thirty patients or more, giving a thorough practical and theoretical training, and must have had certain other specified training and experience.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience, on a scale of 100.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil service examiners at the post office or customhouse in any city.

CHLORAZENE IRRIGATION IN EMPYEMA

Just come from my fourth case of pleurisy with purulent effusion. This case is 24 hours old since drainage and, like the others, had an odor in the discharge that was awful.

The first case, and all the cases I remember in the school and hospital, were allowed to drain into dressings and permeate the surrounding atmosphere with a foul odor that was in itself enough to kill the patient and make the attendants ill.

In my first case, the old surgeon emphatically "sat-on" my proposition to improve matters, and for four days I allowed the patient to do as I was told. But, as I could see only death ahead for him, I put my plan of treating a cavity infection into action. Probably others have used this and written about it. If so, W. P. B. with this. [W. P. B. or the tiger, is fed only useless stuff. This is good! —Ed.]

With a short section of glass tubing, I connected a sterile rubber tube of the same size to the drainage tube and immersed the distal end of the attached tube in a two-quart jar of 0.5-percent Chlorazene warmed to 100° F. Now, allow the temperature of the jar's contents to recede to room temperature. Have two jars, one always prepared, and change as often as indicated, keeping the bottom of jar in use below the level of the patient's back. The first time, push the tube *quickly* to the bottom and, in a few moments, add enough fluid to replace what the cavity has taken, then withdraw the tube to within three or four inches of the top of the fluid.

The fluid will soon take care of the temperature; but do not waste effort looking for sub-normal temperature on that account. Keep the bowels open, three times daily, with suitable vegetable laxative, unless the tongue is foul or yellow. Then, use calomel and podophyllin. Prescribe Calcium Sulphide, gr. 1, and Intestinal Antiseptics, of each fifty. Sig.: One tablet hourly when awake, with water, alternating colors.

Forget to worry about that patient.

"Country."

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["Country's" surmise is correct: Others have used and written about chlorazene solution for irrigation of the pleural cavity, in

empyema. That is no reason, though, for scrapping his paper. The suggestion is a good one, and good things always bear repetition.—Ed.]

TREATMENT OF FRONTAL SINUSITIS

There is probably no class of diseases so hard to get rid of as are the chronic infections of the nasal sinuses. Formerly, our only resource was surgery, and results from this method have been none too satisfactory.

With the recent perfection of technic and a better understanding of the action of the various electrical currents, we have a weapon which promises something of real value for these cases.

Sinus disease has been repeatedly demonstrated as an important cause of various other disturbances (points of focal infection), and steps should be taken to clear it up wherever possible.

The D'Arsonval Diathermic Current (low voltage, high amperage, high-frequency current) is indicated in the chronic stages, not in the acute. However, on account of the increase in circulation, i. e., the reaction produced, aggravations are liable to occur if we are not dead-sure of good free drainage.

Employing the vasoconstrictive action of the positive pole of the galvanic current plus adrenalin cataphoresis, we may open up the ducts and thus obtain good drainage. If we will now give the diathermy and follow it immediately with the surging sinusoidal, to massage and help remove the decomposition products, we obtain remarkable results in even the severest forms of the disease.

There is just one real diagnostic sign of frontal involvement and, if that is not present, you may be pretty sure that your patient is fairly free from trouble in this region. It is extreme sensitiveness to pressure with the finger on the thin floor of the sinus above the eyeball. The x-ray is also of distinct value.

Treatment:—We must first shrink the infundibulum, open up the frontal duct and institute drainage. Take an ordinary nasal probe and cover it with cotton to about the thickness of a match. Soak it in a 1:1000 solution of adrenalin and shake off the excess. By means of a Morse Clip, connect it to the positive pole of the galvanic current and insert it well up into the nose, as near the infundibulum as possible. This can best be done by passing the probe without a speculum. Insert it in the nose and then depress the handle, working it gently up toward the inner angle of the eye. When you get high enough, there is a tendency to bring on an attack of sneezing, which soon leaves. Connect the negative pole of the galvanic to a small pad well soaked in water and covered with a good lather of soap, placed on the cheek or forehead close by and held in position with rubber bands.

Give 2 or 3 milliamperes for three minutes, turn off the current slowly and remove the probe. Have the patient take a deep breath and close the nostril of the unaffected side. Then direct him to blow through the nose long and hard. The rapid rush of air produces a vacuum in the upper nose, which sucks the mucopurulent discharge from the sinus. It is well for the patient to hold a towel in front of the nose to catch the discharge.

In the acute frontal sinus, where the duct is completely obstructed and the patient is suffering the agonizing pain characteristic of accumulation of pus, etc., in a bony cavity, this method will give instant relief. Repeat it as often as necessary until the acute symptoms have subsided.

Having instituted drainage, our next step is the application of the diathermy. When applying the D'Arsonval current for eye, ear, nose and throat diseases, on account of the delicate structure of these organs, we cannot follow the regular rules of dosage but must depend entirely upon the sensations of the patient, never going above the point of comfort.

The smallest, or active, electrode must be put in the nose to obtain the best results. The indifferent, or larger electrode must be placed on the forehead in such a position as to draw the current through the sinus.

For the nasal electrode, the metal terminal of any ordinary conducting cord is as good as any. Cover it with cotton soaked in boric acid solution, of proper size to fit snugly in the nose. Be sure that there is plenty of cotton over the end of the terminal.

Insert it in the nose and hold in place with rubber band or a string tied around the head. Connect the other end of the cord to one of the binding post of the D'Arsonval coil.

Next, cut a block-tin electrode, 2 inches long and 1½ inches wide. Connect it to a conducting cord attached to the other binding post of the coil and place the electrode on the forehead over and a little above the sinus. Be sure that good contact is made, and bind it in position with rubber bands or bandage.

Now turn the current on very mild, and gradually increase it up to the point of com-

fortable tolerance. Treat for seven minutes, the first three or four times, and, if no signs of aggravation are produced, gradually increase to ten and fifteen minutes.

At the end of the diathermy treatment, remove the cords from the high-frequency apparatus, connect them to the surging sinusoidal and deliver a comfortably strong current for three minutes (no longer) through the same electrodes.

Give the treatment, every day, if possible, until definite improvement is established, then gradually wean off. Do not discharge the patient until you are sure the results are permanent.

Give these patients internally, 1/1000 grain of potassium bichromate. This remedy you will find of distinct value in all cases of chronic catarrh of the sinuses.

MEL R. WAGGONER.

Cedar Rapids, Iowa.

HYOSCYAMINE, THE ANTI-SPASMODIC

Last Saturday evening, I was enjoying a game of cribbage with a friend, when, suddenly, about half past ten o'clock, a woman screamed, Dr. Thackeray! Dr. Thackeray! outside my residence on the street, alarming me as to the possible cause, and, in a moment, a hysterical mother followed by a much agitated grandmother with a crying babe in her arms entered my sanctum.

It was easy to see that the baby was in a tonic spasm and, at the same time, suffering intense pain.

I knew that the child was cutting molars and the grandmother said that they had been giving the baby Elixir Coco-Quinine (Lilly), for a cold; also, a dose of Castoria had been given just before the present attack.

All else aside, here was urgency! and it was up to yours truly to relieve that baby, and do it now. I got my Hyoscyamine, gave to the child, under the tongue, 1/1000 grain and awaited results. Baby is fourteen months old.

In three minutes, by the clock, the spasm gave way and baby was as limp as a wet rag. In five minutes, the crying ceased and baby was looking sleepy, except for the fact that the pupils were largely dilated and the eyes shone like electric lamps. There was no dryness of the mouth or fauces; on the contrary, it looked more like salivation than its opposite.

The danger passed and, as the Castoria had not operated, I ordered an enema which was duly administered.

The night passed uneventfully and, whether the trouble was caused by the teething, the quinine (8 grains had been given in fourteen hours), or the Castoria, I do not know. However, I do know that any hypothesis that I might offer was driven into obscurity by the hyoscyamine. On Sunday morning, when I called to see how my patient had passed the night, he was able to greet me with "howdy do" and a very polite bow.

W. T. THACKERAY.

Fowlerton, Tex.

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[It is the part of wisdom to keep in mind the preeminent antispasmodic properties of hyoscyamine, which are truly remarkable. Hyoscyamine should be a constant part in our emergency case and, also, it should never be forgotten when the question of relieving spasm arises. The drug will not often disappoint, and it can be given in such small doses as to be innocent of doing harm.—ED.]

"A PUZZLING CASE"

As one man's guess is as good as another's, here is mine (August issue, page 603). The baby probably had an icterus trouble or, as I have found in my cases of flu, a condition that manifests itself with these train of symptoms after birth. I have never lost one with this condition, because I immediately ordered calomel, with saline laxative first thing next morning; then, in the evening, I began "Corrective, Infants" until the symptoms clear up. If green shows in the bowel movements at any time, stop the correctives and give a round of calomel and saline as before. Then repeat the corrective until the bowel passages are normal in color and consistency. All the time, large quantities of cool boiled water are given, but the baby is nursed every two hours. Keep it warm with artificial heat; brucine if needed.

I don't know as I have given the reason why I have diagnosed it in this way, but have tried to. As I say, I have never lost one, and a number of other physicians have lost them in this same condition. A year ago last spring, or, rather, in 1921, I had 24 different babies with this condition under my care. They had been delivered by ten different doctors and one was so far gone, when I was called, that it was in convulsions.

E. L. MEREDITH.

Ogallala, Neb.

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[To diagnose the condition described by

Doctor Acheson as "icterus," does not help a lot; for the simple reason that jaundice is a sequel of a pathological condition in the liver. It would have to be shown what caused the jaundice, and that is what Doctor Acheson wanted. Besides, Doctor Meredith's experiences are not quite parallel. They concern infants with *icterus neonatorum,* with which we are quite familiar. Usually, this icterus clears up spontaneously; it is not often that it becomes serious. In Doctor Acheson's little patient, there was nothing to show what was wrong in the liver, there was no time to follow any definite plan of treatment, even if one could have been outlined. The baby succumbed fifty-eight hours after birth. There had been no stormy symptoms, no definite signs of illness; only marked and increasing inanition. The icterus was clearly secondary and did not, of itself, cause death. What, we should like to **know, might** have been the condition of the liver? It was a congenital fault. Who can clear up the riddle?—Ed.]

PSYCHIC INVESTIGATION

It seems strange that so little is published in medical journals concerning psychic phenomena, when the lay journals are full of them. Shortly after the World War, the magazines were full of supposed communications from the dead. This story-writing fad died out, but we were not informed as to any conclusions. Our good poet, Geo. H. Candler, was rather severely criticized because he wrote an article in which he disagreed with spiritualists. He had a right to his opinion and so had those who retaliated. But replies should be kept in a good spirit.

It may be presumption on my part to contribute anything on this subject, but, to my mind, anything, however small, which will aid in the differentiation between telepathy and spiritism is pertinent rather than impertinent.

For some years past, many books purporting to have been dictated by spirits have been published. Among the interesting ones were "The Twentieth Plane" by Dr. Albert Durant Watson and "The Dawn of the Awakened Mind" by Dr. John S. King, president of the Canadian Society of Psychological Research. After reading both books, I was impressed with the idea that they were due to the unconscious versatility of the authors, modified at times by the brain of the operator of the Ouija board. The latter, of course, is used only as a method of abstraction in order that thought waves can be received. In the above-named work of Dr. King, I wish to call particular attention to a paragraph on page 222. Dr. King is interviewing Socrates. The latter's spirit says: "I'll try to aid your wish to be a speaker eloquent; for, to me, it was like a necessity. *I walked upon the shore with pebbles in my mouth,* to be a means of teaching my delinquent tongue to understand it must obey my least command. Yet, when I won, the hemlock tea was all that fate awarded me. Yes, I am alive and here today. I have my influence." Now, it was *Demosthenes,* the orator, who walked the beach with pebbles in his mouth. Does this not show that a temporary lapse of memory on the part of Dr. King led his uninformed "sensitive" to reproduce an error? It is unbelievable that the spirit of Socrates could make such a mistake. That the sensitive, or operator, does modify the original thought, I shall demonstrate by two occurrences in my household where we have had a Ouija board for amusement, for many years.

About 20 years ago, I went into the house from the office and found my niece and my sister-in-law working the board. One of them said, "Ask it a question." I said, "There was a boy in the office, what is his name?" I concentrated on the name "Leland." Very promptly, the board spelled out *"The same as your own son."* The only explanation to this is that, in my subconscious, it was stronger that the boy was named after my son than was the name itself. But, some psychologists say that we have no subconscious. Then what?

The other instance concerned an occasion when I asked a lady operator of the Ouija the maiden name of a married lady I had but lately met. I am positive, the operator did not know it. The board spelled "goodbye." The operator said it did not wish to answer. I replied that it did not know. It then spelled out the slang phrase, "Oh, rats!" I told the operator that she thought that. She replied that she did not use slang. I insisted on a reply to my first question. To my astonishment, it spelled *"If you must know,* Miss Love." The name was correct, but I had thought only of the name *Love.* Evidently, this odd reply was due to the impatience of the operator, although she denied this.

I believe in Telepathy and believe, further, that it will be in practical use before long. All we need is, to learn to use it. This has been a matter of common conversation in my home for a number of years. I believe that

telepathy will explain all spirit phenomena.

In regard to this belief, I may relate that, forty years ago, my preceptor and I were driving along a road in Westmoreland County, near Saltsburg, one evening, when he casually remarked, "This is called the haunted bridge." It was an ordinary wagon bridge over Beaver Run. I asked, why. He replied that families nearby reported that persons had been seen walking along and who disappeared, to them, miraculously. He said that a Mr. G. had told him that he saw persons, strangers to him, walking as ordinary pedestrians and that they suddenly disappeared. "Just where we see that woman and little child," he continued, as I was incredulously listening. To our astonishment, the "woman and little child" vanished. We got out of the buggy, searched up and down the road and even under the bridge. We saw no trace of them. Neither of us being superstitious or knowing much of modern ideas of either, telepathy or materialization, we tried to satisfy our minds by assuming that some peculiar condition of the atmosphere in the valley had produced a mirage. In the light of my present belief, it is more reasonable to think that my preceptor visualized the figures and I, listening intently, became attuned, my brain a receiving station, and I saw what he did mentally.

One other instance. My son, Arthur (now deceased), with whom I was always in close correspondence, was in Mexico, prior to the World War. He witnessed the Battle of Monterrey and came home over a trail, the railroads being out of service. I had not heard from him for weeks. One night, I became impressed with the idea that he would arrive home on the "Bummer," a train due here at 1:25 A. M. I had no knowledge of his intention of coming home. He did not arrive as my impression led me to believe he would; but he did arrive by the next train in the morning, having missed the "Bummer" on which he expected to travel.

These are not isolated cases. I meet with many among my patients. They are not supernatural. Why should we not investigate and classify? I have just finished reading about Lola and Rolf, the educated German dogs. I cannot but believe that their seemingly educated replies by rapping are but the result of thought transference from their teachers and that the dogs are only animated Ouija boards, repeating the suggestions of their masters.

NOTE: It was my son, Arthur C. Henry, who called my attention to the discrepancy in the work of Dr. J. S. King. My son volunteered in the World War, fought in St. Mihiel and the Argonne, was gassed and died of pneumonia after his return.

T. J. HENRY.

Apollo, Pa.

THE COUNTRY DOCTOR

The June number of the Journal has been read through, and I just want to express my appreciation of at least one article, viz., the letter from Charles S. Moody, on the Country Doctor. He has hit the nail on the head every time, and has driven home a good lesson to some of these modern high-brows. The practice of Medicine is not an organized mechanical trade, operating according to fixed laws or subject to the dicta of any set of men, no matter how scientific or highly educated they may be. Medicine is both, a science and an art; and, while I have every respect for those who cultivate the purely scientific side of it, I am not sure, but that it finds its best exponents in the country doctors, as an art. We all appreciate our hospitals, laboratories, clinics, etc., indeed, we could not do without them. However, let us not forget that, in the practice of the healing art, we are dealing as one individual with another, where there must be mutual cooperation, understanding and confidence, and where the personal coefficient in the solution of the problem bulks large.

Let the country doctor acquire the best scientific education he can get. Then, with a heart full of sympathy, a love for his profession and a manner pleasing and tactful, he will soon make himself a man of power and influence in the rural community, and the hard-handed sons of toil will not be so averse to giving him the pecuniary awards for his labour and to acknowledge that he has honestly earned them.

This condition of affairs can exist only, in my opinion, where we have the real family doctor, the general practitioner. Years ago, before this ultrascientific era, people became ill and were ministered to by the medical men of the day, sometimes very indifferently, it is true, but, on the other hand, often with marked success and to the mutual satisfaction of patient and physician. Are we not in danger these days of losing that intangible something between the medical man and his patient, which used to exist, and which was a bond of confidence between them, making for success in the treatment?

I have had hospital, city and country experience, and I think I can truthfully say, that

I prefer the country life; I won't say any kind of country life, but modern rural life in a civilized country, where there are some of the modern aids to comfort, such as good roads, motor cars, telephones, electricity or gas. Believe me, there is no life like it. So, while I agree in the main with your contributor, yet I think there is something worth having, in "the blessings of pure, warm sunshine and home-cooked victuals."

GEO. ACHESON.

Kingston, King's Co., N. B.

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[Doctor Acheson prefers the country life—that is, "modern rural life in a civilized country, where there are some of the modern aids to comfort, such as good roads, motor cars, telephones, electricity or gas." Good. When the present editorial writer started in country practice (and it was not even half a century ago, either), the roads were mud, and horse and buggy got mired many times, in spring. There were no motor cars, no telephones; there was neither electricity nor gas. In short, it was the old-fashioned country life with all that it implied then. Things have changed vastly, since then, we are told, and there was room for change. Yet, with all the hardships, all the difficulties, the gruelling work, the isolation, we sometimes think back to that time with a rather wistful fondness. There was good work to be done. The Doctor occupied an important position in the scheme of things. His standing in the community was assured. Taking it all, the bad with the good, even then it was quite possible to live happily and contentedly.

To be sure, there was the question of financial returns. They were anything but adequate. Perhaps we did not collect closely enough. Possibly, we lent too ready an ear to every hard-time story. We remember one farmer who based his plea for leniency on the fact that he had twelve children, the oldest about fourteen. We could not resist the temptation to point out to him that that was entirely his own doing and not ours. However, if a way can be found to finance the country doctor suitably, practice in the country offers many advantages over that in the city.—ED.]

THE DOCTOR'S TRAINING

I am glad to read and commend your editorial on "Too Many Doctors or Too Few."

I can see now, after twenty years' active, general practice, where my training was defective and where non-essential for a general practitioner in a town of 2,500. I know that I was helped by my year's experience in the U. S. A. hospital corps during the Spanish-American war and that my medical course could not have been shortened. But I would have been benefited if I had had one or two years' experience as an assistant with some busy man in general practice.

If, instead of the seven-years' course as at present, there were a four-years' course with three years of optional work, either in some hospital clinic or as an assistant to some general practitioner, we could be training a lot of worthy men to be just doctors, in the medium-sized communities, and not so many surgeons and specialists; and then there would be some incentive for many school teachers and men of as good personalities to train for this small-town work that is now prohibitive in cost and time to them.

I have never aspired to do major surgery but have always tried to keep up to date on all new things and have always believed that, if I were a thorough, scientific man, I could make the application of any truth better than any irregular. So, I have always tried to get the truth out of new things and, in consequence, the osteopaths, chiropractors and christian scientists have never been able to get any foothold here.

I am usually a sucker for new things and have owned an Ozone machine, a Kromeyer lamp and many other office appliances that I sometimes junked or again traded off in a year for other apparatus that I thought would be more useful in a small town.

I am now trying out a Farnham electrome machine and am really having some excellent results, if they only last. I don't see why they should not be as permanent as medical relief.

Go to it. No problem is ever settled till settled right and the medical oligarchy are either not practical men or they have sold their souls.

F. W. STEWART.

Colfax, Iowa.

PROBLEMS OF THE COUNTRY DOCTOR

Panics, boll-wevils and everything seem to combine against us, poor country doctors—so much that it seems that we are not able to pay all sorts of taxes and meet the actual expense in our every day practice. However, I am taking one more shot at CLINICAL MEDICINE by sending in a renewal for this year, as (the way I see it) one article alone, that on

"Standardization" (July issue, page 485), is worth the price. I extend my hand to the author of this article and bid him Godspeed.

This tendency to classification does not stop at standardizing doctors, but, here in free America, there is propaganda circulated that will standardize the preacher and, when this is done, there will be censorship for both; and then, what?

This scribe is now 66 years old—have practised in the country for 40 years and, no doubt, am dubbed an old "fogy," which may or may not be just. Yet, the records show that, in all these years of general practice, I have never lost a case in obstetrics.

We should be allowed to be free and independent thinkers. What has been gained by bed-side experience and observation by men, in the past and present, should be a safe and sound way to treat sick people and, as the old doctor said: "Eyes were made before microscopes, ears before stethoscopes; brains before laboratories." That is as true as ever. All these things are good and should be used in connection with the knowledge gained by every-day practice, when needed. Still, you may blindfold an experienced practitioner, and he can diagnose typhoid fever, pneumonia and many other diseases without eyes or thermometer.

When the old family doctor does all this away from any laboratory or other means of the present day, he knows full well what treatment is best suited to each individual case.

"Can you standardize personality?" We thought not. The true physician is not merely a machine to be moved by some remote power. He is in possession of the five great senses, sight and touch being the greatest of all and, with brains behind these, he (the doctor) has a wonderful working machine all his own, which has, in the past as also in the present, answered the call of "nature" when disease invades the human body.

He does not sit down and wait for someone higher up to make a diagnosis, or "standardize" him and tell him whether or not the patient has the bacillus of Eberth. He does not wait to get answer from others, when his patient has pneumonia, whether pneumococci are in the sputum. No, sir: He dives right into it with all the "arms of precision" at his command. He does not deny the existence of pneumococcus germs, but he loses no time waiting to get a confirmation of his diagnosis, because he is sure of his ground.

At the same time, he (the doctor) accepts everything that is good and which time and test have tried out. He does not deny the infectiousness of disease and learns how to prevent its spread among the earth's inhabitants.

But, from the signs of the times, the good old family doctor is fast passing, on account of specializing.

Unless some change is made soon, in less than twenty-five years there will be a great revolution in this country on account of the scarcity of doctors in rural communities and small towns; for the people will rise up and demand a change so that they can have medical attention at home instead of being carted to hospital in some faraway city.

Then, again, there are always some people very poor, as we have them with us in all countries, among all people—that will have to suffer and die without medical aid.

Now, Mr. Editor, these are a few thoughts thrown together at random. If they are worth anything use them, but don't cast my subscription and check along with it into your great big waste-basket, and don't "Standardize the old Scribe."

Milner, Ga. J. M. F. Barro.

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[We will do neither, Doctor Barro. Subscription and check have been entered to your credit, and we have no wish to "standardize" you, although we do classify you in that remarkable *genus*, "physician," and its more wonderful *species*, "country-doctor." We have a great respect for the American country-doctor, for his devotion, his resourcefulness, his keen judgment, his solid knowledge.

The problem of the country doctor and of the people living in country and in small towns is truly a difficult one. It has been discussed before now in this journal and we are anxious to continue and extend the discussion in order to, mayhap, arrive at a tangible conclusion. Who knows but what we may, in time, succeed in elaborating some plan that might be proposed and through which the difficulties existing now may be solved. Let us have a general discussion, and let all those who have some constructive suggestion take part.—Ed.]

THE SOUTHERN "CRACKER"

No social class in this world has any monopoly of all the virtues—nor alas! of all the vices! Wealth and equipage, if retained long enough, do indeed insure a kind of gloss and culture, which may be, and often is, purely superficial and artificial.

Some of the sublimest heights of heroic virtue I have seen unfolded in the lives of the poor and the humble in the country life of the socalled "crackers" in the South. Indeed, every and any country doctor of this section, of any lengthened experience, could bear out this statement.

As a class, these people are inured to poverty. They were born into it and it is their daily life and heritage, often for generations. They become more or less clannish and individualistic. The city is, to them, only a place of wonder and delight, to go to occasionally so as to get a touch of the great big world that is far removed from their own sphere. They develop manners and customs and modes of speech peculiar to themselves. There is a hardness, a grittiness about their nature that is very noticeable and very individual. They are all stoics. They suffer and endure pain with a seeming naturalness purely Spartan, and which your city man, woman or child would squirm at. Often they go for days and weeks in their sickness, without resorting to help from a doctor, until, when he does see them, he often wonders why they are not already dead. This self-deprivation is not alone because of poverty. They seem to have a stolid indifference, too, if not a distinct pride in bearing pain. Then, again, they may be very childish and simple and fly to the "Doc" upon the most trivial occasions.

One thing I want to stress, though; they are not as big fools as they look, nor are they as poor-spirited as they seem on the surface. I know them. Have lived among them. If they are your friends, no battlemented castle affords you a safer retreat from harm than their homes. If they see in you an enemy, a cynic and a ridiculer of their ways (and they are peculiarly sensitive on this), I am sorry for your safety too long among them. They are simple, true, hospitable and terribly in earnest. Woe to the man who wilfully deceives them and falls into their hands!

I will relate a few instances of my experiences with them.

One day, in summer, I was called to one of their homes; to see a "sick child", I was told. It was the regulation one-room shack, and "shed" for the eats—a pine board structure, no glass windows, two openings in the end near the chimney ("stack") and one in the other end. A back door opened into the "shed" room, or kitchen. On a shelf in this room, was a cedar bucket of water and a tin dipper. A single bed was in one corner of the front room; in the other, an old shackelty bureau, or dresser, on which were some tawdry female fineries and toilet articles. I remember an old half-worn brush and comb, and a box in which were some pitiably simple patterns of lace, and a small, round box of powder, "lily white" for the complexion. A half-filled bottle of Hoyts' Cologne was there, too, and a single red summer rose rested in a broken-neck bottle of water doing service as a vase. A rickety chair and an old box stood beside the bed; otherwise the room was bare and cheerless. No sooner had I passed the door lintel, when a voice greeted me from the bed: "Doc, God-ding your soul, I want you to cure me now." I went to it and found a red-haired, freckle-face boy of ten years, in a raging fever—103°. A pale bedraggled woman was on the other side of the bed. I looked at her inquisitively. A faint drawn smile was on her weary face; but she said nothing. "Why, of course, Tom (his name was Tom), that's what I've come for; what's the matter?" He put his little withered hand on his stomach. "Its thar, Doc—I'm a hurtin' dreadfully." "Flu" had been in that community, but that wasn't what was "ailin" Tom. He belonged to that large class of half-starved country children in the South—victims of anemia, hookworm, etc., etc. Peaches and plums and watermelons were ripe, and wild "mukadrines." A "round" of calomel soda followed by castor oil and "tonics" soon set Tom all O. K.—no charge.

One summer evening, I was sitting in my little office, when two women entered. One of them bore a sleeping infant in her arms, about two months old. The other woman was evidently a sister. Both were young and not unlikely looking. The young mother asked me abruptly, "Doc will you look at my baby?" "Certainly, that's my job." (These people like you to be laconic and to the point.) "What's the trouble?" The woman approached me confidentially and away from the other and, with her beautiful brownish-black eyes stretched open wide, said in a half whisper: "Doc, I believe he's fettered." I was puzzled. What was the pathology of "fettered"? I couldn't imagine, I had to bluff. "Strip the child and put him on the couch," said I. "Oh, must I take off his clothes?" she said in seeming alarm, as though she thought I was going to do an Abrahamic sacrifice, I suppose. "Surely you must." Her hands ran rapidly over the precious bundle and, in a few minutes, there was as fine a physical specimen of the Genus Homo as ever woven by warp and woop in passion's infernal loom! (By the

way, he was a *love*-child.) Briskly I went over the pink bundle of flesh, still wondering to myself what "fettered" could mean. After a bit, I "dropped," I went to the desk and got a small scalpel. Slowly I raised the glittering blade. The mother's face went to the wall; in silent prayer, I suppose. The younger sister was sniffling audibly aside. One fell "knick," and the little scoundrel was unfettered —(frenotomy?). He looked at me in pained surprise for a moment, then stuffed his chubby hands in his mouth and smiled! "Is it all over?" a woman's hot breath was by my side as I cleared the surgical field of a little blood. Blood! "Ah, the dear God! Come to it's Muzzer—Muzzer," etc., etc.—$2.00.

Scene 3. A natal chamber. Through the mist of years, I see a withered old hag of a midwife by my side, and hear her voice: "Doc, save the chord! The longer the vine, the better the root!"—$15.00.

T. B. CULLENS.

Ozark, Ala.

"FOUR DOCTORS FIGHTING TO SAVE PRESIDENT HARDING"

July 29.—Doing their best, but every move they make tends to prevent recovery. Still, our only hope is that the President will prove himself one of the many who are "too tough to kill."

Ptomaine poisoning—what is it? Intestinal autotoxemia from wrong eating or overeating. In every such case, the food is not digested fully and inevitably putrefies. A day or two or three of therapeutic fasting aborts the case and brings convalescence. But, what do the eminent physicians do? Feed, feed, feed, whether there be appetite or no appetite; even in the face of nausea and diarrhea.

"The doctors are watching the patient's heart," we read. At the least sign of trouble with this organ, it usually means digitalis, a drug that has caused hundreds of thousands of hearts to stop beating entirely. Of course, it doesn't always kill "this time"; but it is inevitably harmful.

July 30.—"Turn for the worse", but, the bulletin says, "He takes nourishment regularly"! In such cases food is not nourishment but poison, as already explained. Every morsel and sip is a threat to life.

Years ago, Surgeon-General Dale knew the value of therapeutic fasting, and he declared that "if people, when they get sick, would stop eating, they would get well."

Aug. 2.—"Indigestion and pain after eating two poached eggs". Eggs are bad for the well and worse for the sick.

Here we have six or seven prominent physicians, honest, earnest men, treating their patients as they were taught to, getting the best possible advertising (of course), while the poor laity suffer and die prematurely, and pay out their good money for a kind of treatment that in days to come will be universally condemned, as it is now by the few well-informed men in and out of the medical profession.

Feeding a critically sick patient and giving poisonous drugs in the notion that they are curative will, in time, be regarded as malpractice. A few years ago, it was cabled from London that, in an address before a medical association, Sir Frederick Treves, a surgeon of note, declared, "I look forward to the time when the people will give up the extraordinary habit of taking medicine when they are sick!"

The several doctors to whom I have referred "believe in" vivisection, vaccination and all the serums; while, in fact, every injection of filthy matter into the body is a direct violation of the first law of health and life, namely, to maintain, in so far as possible, the purity of the blood. Should it ever come to pass that poisoning the blood can aid in the prevention or cure of disease, we shall see water running uphill naturally, for the laws of nature will have been reversed.

CHARLES E. PAGE.

Boston, Mass.

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Addendum: Since the foregoing article was written, President Harding has passed away, a victim of a treatment that kills thousands of good men and women every day in the year. He died a few hours after the painful indigestion induced by the poached eggs, on Aug. 2nd. But, the fact that the President was tough enough to live one week, in spite of the treatment, is proof to my mind that under right treatment he would have recovered. He should have fasted until convalescent and hungry, taking fresh water according to desire. Then, very moderate portions of the plainest food, with no forcing or tempting the appetite.

C. E. P.

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[We agree with Doctor Page, in that we disapprove of feeding in digestive disturbances until the appetite returns spontaneously. After an attack of ptomaine poisoning, especially, the feeding had better be managed with great care, only the most easily digested food stuffs being permissible. However, ptomaine poisoning is not, as Doctor Page has it, auto-

intoxication from wrong eating or overeating. It is an exogenic poisoning, the poison being introduced with spoiled food. It does seem strange that the President should have been permitted to eat sea food at a time when it is considered to be open to suspicion. True, in such cases, the food is not digested fully and putrefies; but, long before then, the poison contained in the food has exerted its baneful effects.

The least trouble with the heart, by no means means usually digitalis, as Doctor Page opines. Not any more. It has for years been taught that digitalis is actually contraindicated in certain heart lesions and that it is of use only in quite definite and well defined disturbances of the heart function. Then, given in the right place, in the right dose and in the right manner, it does good. Under other circumstances, it is prone to work harm.

Whether the injection of vaccines or of serums into the circulation means the introduction of "filthy matter" or whether this is but a "euphemism" dictated by prejudice, we will not discuss on this occasion. Usually, when vaccines or serums are required, the body already is filled with "filthy matter" owing to the bacterial infection, and the immunizing agents enable it to get rid of that matter more promptly than it could do without this assistance. There is no question of "poisoning the blood". Immunization, either active or passive, acts quite in accordance with natural processes.—Ed.]

THE COUNTRY DOCTOR'S PLIGHT

Having just finished reading "Too Many Doctors—Or Too Few?" (July issue, p. 460), I wish to express myself on the subject, but, first, just an explanation.

Having had sickness in my family and then the flu, four years ago, the expenses were eight times normal. Yet, I charged normal fees, because I was so busy that I had no time to figure out actual expenses until it was too late. Then more sickness in my family and, being too good to people, answering calls and furnishing surgical dressings, drugs, also gas and oil for car and, in addition, letting them have credit; finally, the financial conditions of the locality—all this was enough to put a man on his bottoms.

Shouldn't a physician get hard-hearted and demand his money for his services, so that he can give his children good food, clothing, etc., and an education? Do the bankers help the doctors?

There is no shortage of doctors, but the ones in country practice are getting tired of being made the goat for the good of humanity. I for one am and, from now on, I am going to get something for myself and my family. I have practiced fourteen years, very successfully, and feel that I have done my share for the laity. Now, I am open for a new location, either unopposed country practice where they will give me guarantees similar to the contract at Sharon, Kan., or else, I am going to a city and take my chances; for, I am competent and capable to compete with big men.

I believe the contract mentioned to be very good and it is what the country practices will eventually have to do, that is, the biggest share of them. Wherever I move, they will have to give me a guarantee before I go. If any community wants a good physician, and will put up the guarantee, I am open to their proposition.

Country Doctor.

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[The trouble with a good many physicians is that they went on rendering service for the same fees that has been established arbitrarily, years ago, when things were so cheap that you could buy a square meal for a quarter, a good suit of clothes for $25.00, and a pair of shoes for $2.50. As the street slang has it: "Them days is gone forever."

Some years ago, when the cost of living had rocketed sky high, physicians should have increased their fees, but did not, except in the cities and then only in some portions of them. For some foolish reason, medical men are afraid to charge in proportion to a fair return on the capital that they have invested in their medical education and in their establishment and, furthermore, on the expenses that they are under "to do business."

As you found out, to your sorrow, you never figured and, therefore, could not see how inadequately your services were paid.

The way out? It seems to me that country physicians should have heart to heart talks with the preachers and the priests serving the churches in their neighborhoods; also with the editors and publishers of the country papers and with the bankers in their towns. They should show these people, who decidedly influence public opinion, that they have a certain sum invested in their medical and special education. This is capital which should earn dividends at no less than seven percent. They have more money invested in house, office, fixtures, books, and so forth. It costs certain sums to keep the drug cabinet properly sup-

plied. Then, there is a price to be set on the actual services and, *nota bene,* on knowing how to render these services. If all these things are taken into consideration, any clergyman or editor, any storekeeper or other business man, any intelligent farmer will understand the justice of proper fees.

Another thing, office consultations, also operations (except in emergency), confinements, in short, any professional services that can be planned for, should invariably be paid promptly when the services are rendered. It is possible to accustom your clients to that, although it may be difficult. There never should be a baby born into the world other than C. O. D. The parents always have several months to prepare, and it is inexcusable to let a confinement bill run. I admit that some of my own babies have not been paid for, although, by now, they are old enough to vote. Nevertheless, my advice is good.

The Sharon experiment is very interesting and can, I believe be duplicated almost anywhere. Why don't you let some of your influential citizens read that particular article and, perhaps, communicate with the Sharon people? You can start such an association yourself, merely by interesting the leading citizens in your community in the matter. Why not be a pioneer? You can do it. From a business standpoint, the members of the association are so manifestly the gainers from the arrangement, their doctor's bills are so low for the year, that it seems to me, there can hardly be a community where it would not be possible to start something of the same sort.—Ed.]

DIAGNOSTIC QUARTETS:

[Some time ago, Dr. Price submitted to us the manuscript copy published in the following columns. We were pleased with the caustic and succinct guides for diagnosis. Of course, it would not do to let these paragraphs entirely supersede the study of books and special articles on diagnosis. However, in many instances, they will be found very helpful.—Ed.]

Abdominal Extension

1.—In ascites: Umbilicus forced out, distended surfaces smooth, showing broadening at base of thorax, bulging of flanks in dorsal position, enlargement of superficial vein. Dullness changes with position. Wavelike impulse to hand when tapping opposite side.

2.—In Ovaritis: History of growth, unilateral largeness, anterior fixed dullness.

3.—In Pregnancy: Different shape, forced dullness (this is the case also in bladder irritation) and tenderness.

4.—In tympanites: Universal tympany. In peritonitis, smaller effusion and areas of dullness.

Adrenalitis (Hypoadrenia)

1.—Asthenia: Lack of pep.

2.—Low blood pressure: Low pulse.

3.—Inordinate appetite, loss of sleep and weight.

4.—Urine acid, sugar polyuria.

Angina Pectoris

1.—Intense heart pain with fear of death.

2.—Look for diabetes, syphilis, gout, endocarditis.

3.—Motionless ashy face, profuse perspiration.

4.—Syncope in attacks.

Aortic Insufficiency

1.—Dyspnea, faintness, flashes.

2.—Palpitation on exertion and pain in cardiac region.

3.—Edema of legs.

4.—Signs of endocarditis.

Aortic Stenosis

1.—Signs of appendicitis and arteriosclerosis.

2.—Dizziness.

3.—Initial insufficiency.

4.—Dilation and pulmonary engorgement.

Appendicitis

1.—Nausea, vomiting, diarrhea, constipation.

2.—Colic-like pains in right inguinal region.

3.—Pain at McBurney's point, drawing up of legs.

4.—Loss of appetite.

Asthma

1.—Nervous depression.

2.—Constriction of thorax.

3.—Temperature subnormal, cold hands and feet.

4.—Pellets of mucus discharged, paroxysms.

Autointoxication

1.—Drowsiness, lack of energy, headaches, periods of depression, giddiness and dizziness.

2.—Muscular weakness.

3.—Loss of appetite or this is irregular; flatulence, discomfort, furred tongue, dyspepsia.

4.—Pasty complexion, offensive perspiration, lack of circulation, anemia.

Breathing as a Sign

If you're shocked, breathe shallow.

In faint or sunstroke, sigh.

In apoplexy, you must snore.

But with morphine breathe full and slower-till you die.

Broncho-Pneumonia

1.—Physical signs of bronchitis, sibilant breathing, subcrepitant rules, harsh breathing.

2.—Areas of slight or distinct dullness.

3.—Cyanosis may increase, other symptoms decreasing as asphyxia deepens; moist soles, cardiac weakness.

4.—Course, a week.

Carbolic Poison

Ease your mouth with alcohol if you've
burned it sore.
Mix with equal parts of water and gulp ta-
blespoonfuls four.
Follow this with Epsom salts, although the
dose may bore.
Then use raw eggs—if stiff the price, a coffin
costs lots more.

Chorea

1.—History of rheumatism, scarlet fever, endocarditis.

2.—Jerky movements.

3.—Temper, loss of speech and memory.

4.—Soft, systolic murmurs at base.

Coma

Apoplectic: 1.—Flushed face, loud and low breathing.

2.—Pulse full and strong.

3.—Pupils dilated and do not react to light.

4.—Face paralyzed on one side.

Urea: 1.—Swollen face, urinous breath.

2.—Irregular, high-tension pulse.

3.—Pupils may be dilated.

4.—Twitching of muscles, mouth to one side.

Opium: 1.—Face dusky and cyanotic.

2.—Respiration slow, irregular pulse.

3.—Pupils contracted to pin point.

4.—History and smell.

Alcoholic: 1.—Face flushed.

2.—Respiration normal, deep and loud.

3.—Pulse rapid.

4.—Smell of alcohol. Will respond to intercostal tickling.

Epileptic: 1.—Frothing at mouth.

2.—Jerking of muscles—clonic and tonic.

3.—Cry.

4.—History.

Gas Poisoning: 1.—History of working in same; sleeping, smell.

Sunstroke: 1.—Face flushed, skin dry.

2.—Labored respiration, quick.

3.—Profound unconsciousness.

4.—Temperature high.

Hysterical: 1.—Don't hurt oneself as in apoplexy and epilepsy.

2.—Laughing, crying.

Diabetes Mellitus

1.—Frequent urine (1025-45), 1 to 10 percent of glucose, acetone, diabetic and butyric acid (inordinate appetite).

2.—Loss of weight, sleep and strength; dry skin, short breath.

3.—Low blood pressure, low pulse.

4.—Headache, constipation, dry mouth, red tongue.

Diphtheria

1.—2 to 7 days' incubation, convulsions, pain in back and extremities.

2.—102 to 104° F. temperature. Pulse 100 to 120.

3.—Dusky gray membrane over tonsils, fauces, uvula, leaving (when removed) a bleeding surface; dirty brown flow from nose, stench.

4.—Cervical nodes swollen.

Empyema

1.—Purulent pleurisy, signs of pus, chills, pallor, irregular fever, and friction sounds.

2.—History of pneumonia, scarlet fever, typhoid, perforation of side through tuberculosis or trauma.

3.—Abrupt invasion, sweats, cough.

4.—Empyema through bronchi, chest viscous.

Endocarditis (Ulcer)

1.—Sordes on lips, tongue dry, irregular fever, chills.

2.—Headache, restlessness, delirium, dislike of light.

3.—Convulsions, stupor, joint-pains, spleen enlarged, liver congested.

4.—Ecchymotic spots, especially on feet and extremities, albumin in urine.

Erysipelas

1.—Chills, malaise, headache, temperature.

2.—Burning and redness of skin on bridge of nose and butterfly pattern over cheeks.

3.—Not below collar-line; in migrating type affects the extremities.

4.—Bleb formation and desquamation.

Fibroma

1.—Hemorrhage, leucorrhea.

2.—Pain in tumor and surrounding parts.

3.—History of hydronephrosis, pyelitis.

4.—Constipation, hemorrhoids.

Gall-Stones

1.—Sudden attack, excruciating, cutting pains in right hypochondrium, abdomen, liver, thorax, right shoulder and arm.

2.—Vomiting, drenching sweats, feeble and rapid pulse, syncope.

3.—Chill with fever, 101-103° F.

4.—Liver enlarged, tender; gall bladder swollen and palpable; jaundice, urine with bile pigment and albumin.

Gastritis (Chronic)

1.—Capricious appetite, feeling of fullness after eating.

2.—May vomit slimy mucus, mornings;

furred tongue, lassitude, vertigo, headache, unpleasant breath, stomach cough.

3.—Nausea, abdominal gas, eructation, regurgitation of bitter or tasteless fluid, catarrh.

4.—Cardialgia or heartburn.

Hernia (Strangulated)

1.—Vomiting stercoraceous.

2.—Complete constipation, rarely diarrhea.

3.—Increase in pulse, slight temperature, then subnormal.

4.—Pain tense, tender, no or slight impulse on coughing, resonant note on percussion, pain referred to umbilicus.

Hodgkin's Disease

1.—Slow anemia with enlargement of lymphatic glands.

2.—Remittent fever.

3.—Feeble cardiac action.

4.—Shortness of breath.

Internal Hemorrhage

1.—Dilated pupils.

2.—Rapid failing of circulation.

3.—Features shrunk.

4.—History of dull aching, weighty feeling some place (rupture of an aneurysm.)

Influenza

1.—Epidemic, cold.

2.—Onset sudden, chills and fever, much sweating, chilliness along spine.

3.—Pain in throat, hoarseness, catarrhal symptoms, sneezing, dry irritating cough, shooting pains in eyes and forehead, joints and muscles.

4.—Bronchial trouble, loss of appetite, nausea, vomiting, sometimes diarrhea—all give feeling of meanness.

Insanity

1.—Sleeplessness.

2.—Alteration in the emotional state.

3.—Pain or heat in head.

4.—Eye reflexes poor or wanting.

Intestinal Obstruction

1.—Diarrhea, constipation, vomiting.

2.—Cold clammy skin, pain, prostration, pallor.

3.—Extreme thirst and dry tongue.

4.—Rapid pulse, tympanites, rapid respiration, scanty urine.

Locomotor Ataxia

1.—History of excess, overwork, tires easily, painless swelling of knees and elbows, loss of bladder control.

2.—Absence of patella reflex.

3.—Romberg's sign: inability to stand erect with eyes closed.

4.—Argyll-Robertson's test: Eyes accommodate to light but not to distance. Fraenkel's: Legs can be placed at right angles to body.

Malaria

1.—Epistaxis, bleeding lips and gums.

2.—Hard chill, slow rising fever, quick jerky pulse.

3.—Dirty appearing skin, anemia, spleen enlargement.

4.—Swelling of feet and ankles.

Measles

1.—Head cold, incubation; 9 to 14 days.

2.—Fever.

3.—Koplik spots on inside of cheek, red mouth.

4.—Eruption of small papules on neck, forehead and chest on 4th day, lasting 3 to 6 days.

Morphine

1.—Heart, bad action.

2.—Unrest, sleepless, vision reduced, appetite gone.

3.—Hallucinations.

4.—Intolerable leg and back pains.

Myelitis

1.—Acute, transverse: Moderate fever, coated tongue, constipation.

2.—Pain in back and limbs on level with disease, tingling, burning, flaccid, twitchings, convulsions.

3.—Paralysis and no sensation below level.

4.—Sphincter, reflexes increased when above lumbar enlargement—absent below.

Nephritis (Chronic)

1.—Tiring easily, occipital headache, shortness of breath.

2.—High blood pressure, blood low in urea, creatinin and phosphates, blood-sugar high.

3.—Frequent and excessive urination, eye symptoms, urine loaded with albumin and casts, edema.

4.—Death by cerebral hemorrhage, failing heart, and uremia.

Neurasthenia (Gastrica)

1.—Low or irregular appetite.

2.—Fullness after eating.

3.—Sleeplessness.

4.—Sometimes dizziness.

Opium Poisoning

1.—Purple face.

2.—Pin-point pupil.

3.—Pulse slow.

4.—Possible smell in paregoric.

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[*To be continued.*]

What Others are Doing

INSULIN IN SEVERE DIABETES

Contrary to the views expressed frequently, especially in the daily-news sheets, insulin is not, and is not claimed to be, "a cure" for diabetes; it is a treatment. This we assert on the authority of Doctor Banting himself who contributes a brief but very practical article on the subject, together with Dr. Alexander McPhedran, to *International Clinics* (Vol 2, Thirty-third Series, 1923).

He says that, during the first twenty-four hours, diabetic patients remain on the diet maintained before admission, so that some idea of the severity of the disease may be gained. Then they are placed upon a basal requirement table which is estimated from Du Bois chart and Aub Du Bois table. On this basal requirement diet, the patients remain for a week, during which time careful histories are taken and complete physical examinations done. Blood sugars are estimated before breakfast and three hours after, in order to determine accurately the fasting level and the result of food. A twenty-four-hour specimen of urine is examined qualitatively and quantitively for sugar and acetone. When on a basal requirement diet, which has a low carbohydrate value, patients soon excrete fairly constant amounts of sugar. If, then, a patient becomes sugar free, the diet is raised and, if he can take 500 calories over and above his basal requirement, his case is not considered sufficiently severe for insulin treatment.

It follows that a case of diabetes mellitus is considered severe when the patient is unable to metabolize 500 calories over and above his basal requirement. Before commencing insulin treatment, it is essential to know the tolerance of the patient; that is to say, the number of units of insulin that can be produced in the patient's own pancreas. It is understood, of course, that insulin treatment consists in the artificial administration of the substance sufficiently to compensate for the deficiency of the patient's own production. The treatment aims to balance the increased diet over and above the patient's own tolerance with the artificial supply of the internal secretion.

A unit of insulin is the amount of active principle required to reduce the blood sugar of a rabbit, which has been starved eighteen hours, from its normal level to approximately 0.120 percent to 0.45 percent. [Mem.: This is copied verbatim from the report. We apprehend a printers' error. Should it not be 1.20 percent instead of 0.120 percent?—Ed.]

The dose of insulin is calculated on the height of blood sugar and the average number of Grams excreted daily. A patient with a high blood sugar requires a larger initial dose because the blood sugar must be reduced to its normal level.

Insulin is best given twenty to thirty minutes before meals. Then absorption of insulin and of carbohydrate from the gastrointestinal tract takes place simultaneously and the patient's blood sugar remains constantly below the kidney threshhold. Normally, when food is absorbed from the gastrointestinal tract, there is an increased production of insulin by the islet cells to deal with the carbohydrate. This is in abeyance when the islet cells are non-active. Since there is normally a greater activity of the islets following a meal, the properly balanced administration of the internal secretion (as to time and dose) and of the carbohydrate ingested will make it possible to maintain the diabetic patient sugar-free on the diet that is sufficient for his daily requirements.

Usually, the patient receives two doses a day, one before breakfast, the other before the evening meal. It may be found advisable to give a larger dose in the morning, say, 15 units before breakfast and 10 units before supper. In very severe cases, three or four doses may be required. In milder cases, one morning dose may be sufficient.

It has been found advisable to render all cases of diabetes sugar-free by means of insulin, while they are on an adequate diet.

One of the difficulties, or the accidents, met with is insulin shock which is a hypoglycemic reaction. This is a definite clinical phenomenon caused by an overdose of insulin reducing the blood sugar below its normal level. It can be recognized by the patient, since the subjective sensations are characteristic. The reaction depends not only on the extent but also on the rapidity of fall in the percentage of sugar

in the blood. Reactions are characterized by pallor, sweating, stupor, increased pulse-rate, peculiar sensations of impending danger, incoherence in speech, tremulousness and, finally, coma and convulsions. Elevation of blood sugar immediately relieves the condition. This is accomplished by the oral administration of glucose, if the patient is conscious, or by the administration of 10 to 15 minims of epinephrin followed by glucose, if the patient is in coma.

Experimentally, the administration of calcium relieves the hypoglycemic convulsions occurring in normal rabbits without raising the percentage of sugar in the blood. Clinically, it has been shown that certain patients are less liable to hypoglycemic reactions when receiving 10 Grams of calcium lactate, three times a day. [This is interesting, in view of the assertion made so frequently that the oral administration of calcium is futile, inasmuch as absorption does not occur(?). Is this another instance of theory versus practice?—Ed.]

In severe diabetes complicated with persistent diarrhea, the response to insulin treatment is not satisfactory. Here, there exists seemingly a hypersensitiveness to insulin: hypoglycemic reaction are frequent and severe. In one case with achlorhydria, the administration of hydrochloric acid and of calcium chloride acted favorably on the diarrhea and on the hypoglycemic reaction. In diabetes of long duration, where the strain on the islet cells has been persistent and where this is relieved by adequate insulin treatment, the tolerance is increased and the dosage of insulin can be reduced.

Insulin enables the severely ill diabetic to burn up carbohydrate, which is shown by the rise in the respiratory quotient following the administration of glucose and insulin. It permits glucose to be stored as glycogen in the liver for future use. The burning of carbohydrate makes possible the complete oxidation of fats, and acidosis disappears. Owing to normal blood sugar, the depressing thirst is relieved, so that intake and output of fluid are diminished. Since the tissue cells are properly nourished by the increased diet, there is no longer the constantly called for food: the hunger pain of the severe diabetic is replaced by normal appetite. On the increased caloric intake, the patient gains rapidly in strength and weight.

PHYSIOLOGICAL EFFECTS OF INSULIN

In a paper contributed to *International Clinics* (Vol. 2, 33rd Series, 1923, p. 6), Dr. Seale Harris believes that, aside from the known effect of insulin, namely, the increased carbohydrate tolerance, there is also a feeling of such pronounced well-being as to suggest a stimulating effect upon the nervous system. Doctor Harris is inclined to think that this is not merely psychic; his observations lead him to believe that insulin has a direct effect upon the nervous system.

It is too soon to predict the curative effects of insulin, but, with the known results that have been achieved with its use, there can be no question of its permanent place in diabetic therapy. It is possible that by giving rest to the pancreas in the early stages insulin will cure many cases permanently. It is certain that it will at least bear the same relationship to diabetes that the thyroid extracts have to hypothyroidism.

Whether the function of islands of Langerhans can be restored by the use of insulin, can not be determined in a year or two. In many cases, because of various infections of the pancreas, most of the glands which secrete the hormone controlling carbohydrate metabolism have been destroyed, and in such cases a cure can not be hoped for and the patient will have to use insulin the rest of his life. It seems probable, however, that there are cases of transient functional pancreatic disturbances and even organic disease of the pancreas with temporary hyposecretion, in which insulin may tide the patient over until the blood-sugar-controlling hormones are being secreted again, when it may be left off. Those who have had much experience with diabetes know that there are periods in some cases when the blood-sugar is within the normal limits, which, after a carbohydrate debauch, from worry and other emotional disturbances, or sometimes without apparent reasons, may show the urine loaded with sugar, acetone and diacetic acid. In such cases, insulin may save the patient from going into coma, and allow him to be well nourished until pancreatic function is restored, or until his carbohydrate tolerance can be determined and he can be taught to live within it.

With insulin, diabetic coma can not only be prevented, it can be relieved, provided the patient has not been in acidosis too long. The results from the use of insulin in diabetic coma are as spectacular, and as sure, as the relief that comes from the injection of antitoxin into a child seemingly dying of toxemia or suffocation in diphtheria, though the physiological effects of insulin and the antitoxins are quite different. Indeed, there is nothing more dra-

matic in medicine than to see a patient in diabetic coma become conscious and almost normal in a few hours after the use of insulin. Therefore, in the severe cases, insulin offers hope of comfort and life. Its use, however, should be controlled by frequent blood-sugar determinations, because an overdose of insulin. Besides, in the severe cases, particularly those in which there is associated chronic nephritis, the patient may have a dangerously high content of sugar in his blood with little or no sugar in his urine.

INSULIN TREATMENT IN GENERAL PRACTICE

In *International Clinics* (Vol. 2, 33rd Series, 1923, p. 21), there is an interesting article by Louis P. Hamburger, of Johns Hopkins University, Baltimore, in which he relates the histories of several patients, both children and adults, who were benefitted markedly and to a surprising degree by insulin treatment, although they had been severely ill with diabetes. One of them, a little girl of about six, was one of the first patients in the United States who received the treatment. The reports do not lend themselves readily to abstracting, but reprints can undoubtedly be obtained on application to Doctor Hamburger.

After illustrating the favorable aspects of this new treatment, as applied to everyday practice, Doctor Hamburger devotes attention to the difficulties, the disadvantages and the untoward effects.

"In the first place," he says, "it requires considerable intelligence and cooperation on the part of those in charge of diabetic patients and on the part of the patients themselves, a knowledge of computing diets, the ability to serve attractively foodstuffs thus computed and to make changes so as to adjust dosage and diet. Instructions given in a properly equipped diet kitchen connected with a hospital will in part solve this first difficulty. The patients should enter such a hospital, the carbohydrate tolerance ascertained and maintenance diet suitable to age, weight and activity should then be instituted. The diet is balanced so far as the ratio of protein, fat and carbohydrates is concerned in accordance with the principles now generally adopted in the management of the diabetic, the high proportion of fat largely covering the caloric deficit. Thereupon, insulin is to be administered in a quantity adequate to render the urine sugar-free.

There will probably be a group of patients otherwise presenting the indications for its use who, because of lack of intelligence and of insight, will be unable to avail themselves of the new treatment."

Insulin is supplied in three strengths, 1 Cc. of fluid containing 5, 10, and 20 units respectively. The doses are injected subcutaneously from 15 to 30 minutes before two meals, and the larger dose is supplied only to physicians who have had prolonged experience.

Hypoglycemic reactions have been described in the abstract of Doctor Banting's paper and constitute undoubtedly a difficult factor in the treatment. Altogether, we are impressed with the fact that, at least for the present, this form of therapy can be administered successfully only in hospitals, unless the patients are of more than average intelligence or unless they are financially able to employ nurse and physician for prolonged periods of time.

THE PRACTICAL USE OF INSULIN

Dr. Orlando H. Petty, of the Jefferson Medical College, Philadelphia, who also has an interesting article on the practical use of insulin in treating diabetes in *International Clinics* (Vol. 2, 33rd Series, 1923, p. 36) offers the following conclusions from his experience.

1.—Insulin is the active, potent, internal secretion of the islands of Langerhans.

2.—Insulin, if properly administered, e. i., subcutaneously in appropriate amounts and at proper intervals, will reduce the blood-sugar to normal, render the urine sugar-free, and, if the diet is properly arranged, will enable the diabetic to continue his usual professional or business pursuits without fear of acidosis or exhaustion.

3.—Diabetics requiring operation, by the use of insulin can be put in such a condition, in short time, that only the choice of anesthetics need be considered.

4.—Untreated or improperly managed diabetics who have gone into coma, even with pernicious vomiting, can be restored to consciousness within a few hours, and, ultimately, to a pleasant and useful life, if insulin is heroically yet carefully administered.

INSULIN IN THE MAYO CLINIC

The Medical Clinics of North America for July 1923, which is the Mayo Clinic Number, contains three articles on insulin, the new treatment for diabetes mellitus.

Dr. Russell M. Wilder presents a historical and technical sketch of this interesting substance.

The experience of the Mayo Clinic is based on the treatment of 150 patients. At present, there are 50 or more patients in the diabetic service in the Clinic, more than 40 of whom are receiving insulin.

Of the 150 patients, 3 died in the hospital, although death in no case was due to the treatment. On the other hand, in more than 20 cases of diabetic acidosis and in 4 patients in actual coma, the trouble was promptly controlled. In progressive cases of diabetes, of several years' standing, insulin; when used as an adjunct to the other treatment, brought about striking improvement and restored carbohydrate tolerance, resulting in a notable gain in weight with proportionate improvement in strength and vitality. These results usually were obtained within a few months. Doctor Wilder cautions, however, against attributing to the insulin all the improvement that has occurred. A spirit of optimism, he says, and of buoyant enthusiasm permeates the wards and affects all residents. This in itself, as will be recognized, is the best medicine for the diabetic patient and may be partly responsible for the rapid recoveries observed. Nevertheless, actual physical results of insulin treatment seem to justify this enthusiasm, the more so as the carefully-controlled observations made in the metabolism ward confirm the impression received from the general service.

In the same issue of the Mayo Clinic Number, S. Franklin Adams has an article on "Food Mixtures Suitable for Diabetic Patients Receiving Insulin and a Method for Calculating Diets". To this, he presents the following summary:

Several important considerations regarding dietotherapy for diabetic patients are reviewed. A system of diets is described which has taken these considerations into account.

A modification of the monographic chart for the calculation of low maintenance diets for diabetic patients is described. A new scale has been introduced by means of which it is possible to determine the sugar value of the diets.

This chart has the advantage of being a simple and accurate means of determining, by the single setting of a straight-edge, the amount of fat, carbohydrate, and protein of an aketogenic diet, its total calories, and sugar value, when any two of these five variables are known and fixed.

Finally, Clifford J. Barborka writes on: "Use of Insulin in the Treatment of Diabetes" in which he limits his discussion to a description of the actual procedures now employed in the Mayo Clinic in the treatment of patients requiring insulin. Since the method followed in The Mayo Clinic differs in several particulars from the methods of other clinics, the paper is interesting in various respects.

Barborka concludes:

"It is to be expected that further improvement in the treatment of diabetes will soon be forthcoming. The wide-spread interest in this field, which has been stimulated by the introduction of insulin, and the numerous chemical and clinical investigations now in progress in many centers will, undoubtedly, bear fruit in the form of further advances. In the interval, it is the obvious duty of the profession to make the best possible use of insulin which, if used wisely, should as materially improve the life expectancy of the diabetic patient as it certainly adds immeasurably to his feeling of well-being and happiness.

These three papers from The Mayo Clinic have attached a bibliography of fifty-two references, the last one being that of a special insulin issue of the *Journal of Metabolic Research* and which contains ten further articles on the subject.

EXAMINATION TESTS

Where can a man buy a cap for his knee,
Or a key to the lock of his hair?
Can his eyes be called an academy,
Because there are pupils there?
In the crown of your head, what jewels are found?
Who travels the bridge of your nose?
If you want to shingle the roof of your mouth,
Would you use the nails of your toes?
Can you sit in the shade of the palm of your hand,
Or beat the drum of your ear?
Can the calf of your leg eat the corn on your toe?
Then why not grow corn on the ear?
Can the crook in your elbow be sent to jail?
If so, what did it do?
How can you sharpen your shoulder blade?
I'll be cussed if I know, do you?

—"The Hamiltonian."

Among the Books

BOK: "A MAN FROM MAINE"

A Man From Maine. By Edward W. Bok. Illustrated. New York: Charles Scribner's Sons. 1923. Price $3.00.

We believe that most people will start reading this book because they have been impressed so much with Mr. Bok's autobiography, which was published a few years ago and reviewed in CLINICAL MEDICINE for December, 1921. In some way, this present story is very like the "Americanization" book; in other ways, it is entirely different. The mere fact that the author has utilized the biography of Mr. Curtis, the publisher of *The Ladies' Home Journal, The Saturday Evening Post,* and many other periodicals, for his subject is incidental. It occurs to the Reviewer that his main object was, to present a preachment and a convincing argument, or again to propound the idea that appears to be a favorite with him and which can briefly be designated as The Romance of Business. Mr. Bok claims that "the greatest and truest romances are being lived around us in the world of business. For, instead of business being a daily grind, or a deadly routine, it is really a romance of the most thrilling order, and an adventure filled with the most fascinating incidents."

In addition to that, the justification of this book lies in the proper study of mankind which, according to Bok, is not so much of the achievements of man as of man, himself. For, it is a truth which knows no exception, that, behind every great accomplishment, is a man greater than the achievement. A successful life means, first of all, a strong man behind it. The fascination in biography or autobiography lies not as much in the actual accomplishment, as in how the achievement was worked out; that is, in the man and the processes of his kind.

In tracing the life story of Mr. Cyrus H. K. Curtis, in describing his numerous business experiences and his steady progress to success, from the little newsboy to the great publisher, Mr. Bok not only indulges his fondness for depicting a business career in attractive colors but he also unfolds a philosophy, adherence to which is essential for attaining success. He declares, for instance, that "the whole structure of business relations rests upon honesty: confidence in the word of one man upon the word of another." The process of becoming a successful business man may be tedious and slow, but integrity and a name for integrity are essentials and surely pay in the end. "Success is not made over night and there is no royal road to it." Nor is success a matter of chance or of luck. It is persistent plugging and working and learning, gathering experience and laying the foundation for things to come. As to the opinion expressed sometimes by those who would like to be successful, but who are not willing to pay the price and, as an excuse, claim that opportunities are no longer to be found, Mr. Bok would say, "the chances for the young man of today are far more numerous than they were forty years ago; certainly, the opportunities are more varied and larger in scope."

Like the earlier book of Mr. Bok's, this one can be read and reread with increasing enjoyment. It has impressed us as a book for boys; for boys from eight or ten to eighty years young, and upward. It has been truly said that men are but boys grown up. Surely, they are. They thrill just as much at adventures, like the Nick Carter books, the Leather-Stocking Tales and at detective stories, as when they were ten. They may even revert to boyhood's vernacular when expressing their appreciation. To read of one boy's business adventures, starting as a newsboy and then doing business with a two and one-half dollar handpress, going on to a three hundred thousand dollar (and more) printing juggernaut —gee, it's great! I betcha a hundred million dollars you couldn't do it! Ah, gee, of course I could! I betcha a hundred billion I could! I betcha—and, so you could, providing that you have the GUTS.

WALSH: "CURES"

Cures. The Story of the Cures That Fail. By James J. Walsh, M. D., Sc. D. New York: D. Appleton and Company. 1923. Price $2.00.

Here is a book the interest of which is by no means limited to a discussion of the vari-

ous special cures that have been exploited since the distant past and down to the most recent present, but which has its application to the everyday problems of the medical practitioner. Moreover, it possesses the very desirable and excellent peculiarity of making the reader think. This is not true of every book. Some of them are delightful and soothing soporifics. You can read them, spending a pleasant few hours; and that is all there is to it. There is nothing to stay with you, nothing to exercise your powers of ratiocination, nothing to influence your daily work, beneficially.

As already said, Doctor Walsh's latest contribution to medical literature is not of that type. His principal idea seems to be, that all the numerous "cures" that have had their vogue, whether they dealt with physical means or not, wrought their beneficent effects through influencing the mind of the sick. They caused the sick to believe themselves benefited and, lo and behold, they *were* improved.

The question suggests itself naturally whether Doctor Walsh tacitly assumes or deliberately means to suggest that many of the present-day methods of treating our sick actually are meritorious in the same manner and for the same reason. The Reviewer cannot find that the author is actually a therapeutic nihilist; yet, he has the impression that the author would not hesitate, if he were asked, to express a definite opinion that many of the present-day accepted and well-established methods of treatment cure, or at least benefit, the patients through the same agency. Whether they do or not, is of import in many ways, to be sure. Finally, though, the first aim of the doctor is, to benefit his patient. Whether he benefits him mentally or physically is of minor importance.

Do not misunderstand. We do not mean to suggest that it does not matter *how* patients are relieved of their aches and pains. We are thoroughly convinced of the necessity of study, investigation and the fullest possible understanding of disease processes. Nevertheless, if we can determine that the patient's mentality is most in need of aid, then the most important thing is, to influence and benefit that mentality, and the nature of the means adopted, whether they be physical or mental, is of subordinate interest.

WEBSTER: "DIAGNOSTIC METHODS"

Diagnostic Methods. Chemical, Bacteriological and Microscopical. A Textbook for Students and Practitioners. By Ralph W. Webster, M. D., Ph. D. Seventh Edition, Revised and Enlarged. Illustrated. Philadelphia: P. Blakiston Son & Co. 1923. Price $8.00.

A new edition of a well-known textbook which is a favorite with laboratory workers. It embodies the results of considerable research along many lines of clinical diagnosis, which have been recorded since the last edition of "Webster" was published. Among the new material contained in this present edition, the publishers enumerate the following: New methods for typing pneumococci in sputum; a discussion of the subject of bronchial spirochetosis; Albert's stain for diphtheria bacilli; fractional method of Rehfuss for examination of stomach contents; Melzer-Lyon method for obtaining bile; the brine flotation-loop method of Kofoid and Barber for detecting ova in stools; Bell and Doisy's method for inorganic phosphates, total and organic phosphorus in urine and blood; Folin's method for amino-acids in urine, Urea concentration test of MacLean and de Wesselow; Hektoen's precipitin test for semen; Van Slyke's method of determining oxygen capacity and hemoglobin content of blood; Stadie's method for methemoglobin in blood; Van Slyke and Silverson's method for carbon monoxid in blood; Benedict's new method for uric acid in blood; Tisdall's method for inorganic phosphates in blood; Kramer and Tisdall's method for calcium in blood; Whitehorn's method for chlorides in blood; Kolmer's standardized quantitative Wassermann test; Warthin and Starry's method for spironemata in tissue; Noguchi's new method for proteins in cerebrospinal fluid; colloidal benzoin test of Guillain, Laroche and Lechelle; and an extended discussion and description of the various pathogenic anaërobic organisms which are found in wounds, especially the vibrion septique, Bacillus oedematicus; Bacillus sporogenes and Bacillus tetani. Under this head is included a discussion of Bacillus botulinus as a pathogenic anaërobe. Throughout the subject matter of the text, new material has been inserted and references have been revised up-to-date, in order to increase the working value of the book as a reference work.

"URANALYSIS"

Untersuchungen des Harns. Hans Kleinmann, Berlin: Bestimmung des allegemeinen physikalischen Verhaltens des Harns.—Emil Reiss (✠), Frankfurt a. Main: Die Refraktometrische Untersuchung des Harns.—E. Querner und W. Weise, Hamburg: Undersuchung der Harnsedimente. Berlin & Wien: Urban

& Schwarzenberg. 1923.

This is a portion of the well-known "Handbuch der biologischen Arbeitsmethoden" (Handbook of Biologic Working Methods) edited by Professor Emil Abderhalden. It contains three articles, namely: the determination of the general physical aspects of urine; the refractometric examination of urine; and, the examination of urinary sediments. The methods outlined are reproduced from the publications of their originators. The book will be of interest to laboratory technicians.

LANDOIS: "PHYSIOLOGY"

Landois' Lehrbuch der Physiologie des Menschen mit besonderer Berücksichtigung der praktischen Medizin. Achtzehnte Auflage. Bearbeitet von Dr. R. Rosemann. Illustrated. Berlin & Wien. Urban & Schwarzenberg. 1923. Price 21 frs (Swiss), or $5.25 plus charges.

When a book has been translated into English (one English and one American edition), into French, Japanese, Italian, Russian and Spanish, it may be expected to be thoroughly well known. Indeed, Landois' textbook of physiology, whether in the English edition by Stirling or the American edition by Brubaker, is well known to American physicians. All the more welcome is an opportunity to examine this truly classical work in the German text, especially because, in the nature of things, it will probably be some time before this present, eighteenth, edition is obtainable in other languages. The work is very complete and its excellence has been maintained by Professor Rosemann who, through years of association as a pupil and as a colleague, has become familiar with Landois' ideas and views. American physicians who read German will find Landois' textbook of physiology eminently useful.

ZINSSER: "INFECTION AND RESISTANCE"

Infection and Resistance. An Exposition of the Biological Phenomena Underlying the Occurrence of Infection and the Recovery of the Animal Body from Infectious Disease, with a Consideration of the Principles Underlying Specific Diagnosis and Therapeutic Measures. By Hans Zinsser, M. D. New York: The Macmillan Company. 1923.

This is one of the two treatises on the subject, extant in American literature, which, in the Reviewer's opinion, are the most useful ones and, indeed, rank far above all other competitors. The appearance of a new edition of Zinsser's "Infection and Resistance" must cause satisfaction; for, a subject concerning which the ideas of investigators are so much in a state of flux and so constantly in progress of development and of elaboration, necessarily requires revision and rewriting from time to time. As a matter of fact, this third edition, the author informs us, is a virtual rewriting of the original book.

The study of "Zinsser" always has given us great satisfaction, because of his remarkably lucid and definite treatment of the subject. Not that the text is by any means simple; in fact, the author has made no attempt to write an A B C of immunity, nor does he try to present any quick means for comprehending the immunity processes. No true insight into any branch of medicine, or, for that matter, into any other science, can be attained, he says, without a certain amount of effort. Consequently to gain an understanding of immunity processes, devoted study is necessary. However, that condition being complied with, Zinsser's book affords to the student a remarkably helpful means.

We have reviewed this book before and may spare ourselves an enumeration of the chapter headings. Suffice it to say that the text is very complete and that it has been made all the more available by a well-planned and executed index.

McKENZIE: "EXERCISE"

Exercise in Education and Medicine. By R. Tait McKenzie, M. D. Third Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company. 1923.

It is high time that the problems of physical exercise be firmly established as coming within the guidance of the medical profession. Altogether too much have they been left with strong-arm artists who are fond of publishing pictures of their over-developed biceps muscles, indulging in promises that either possess no point at all or that cannot be kept.

McKenzie's conservative and sensible discussion of exercise in all its various forms lends dignity to it and enables the physician to select that part of this important therapeutic agent that, in his opinion, is best suited for the patient in need of it.

DEAVER AND REIMANN: "SURGICAL SUBJECTS"

Excursions into Surgical Subjects. By John B. Deaver, M. D. and Stanley P. Reimann, M. D. Illustrated. Philadelphia and London: W. B. Saunders Company. 1923. Price $4.50.

The titles of the addresses or papers reproduced in this volume are as follows: Peptic Ulcer; Jaundice; Diseases of the Bile-Passages; Trials, Tribulations and Joys of a Surgeon; Some Surgical Conditions of the Intestinal Tract; The Contribution of Pasteur to Modern Surgery; Medical Education and Educators; Living Pathology.

We believe that they will be sufficient to attract many purchasers of the book.

MEDICAL CLINICS OF NORTH AMERICA

The July issue of the *Medical Clinics of North America* is the Mayo Clinic Number. It contains several articles on insulin, the new organotherapeutic preparation elaborated by Banting, of Toronto, for the treatment of diabetes mellitus. Other articles of importance deal with cholecystitis; ulcerative colitis; the importance of proctoscopic examinations; enuresis in children, and many other topics of interest.

The Medical Clinics of North America, published bi-monthly by W. B. Saunders Company, at a subscription price of $12.00 a year, constitutes a depository of the best clinical teachings in our country at the present time. Successive issues are representative of the great clinics in the various medical centers of the country. The individual articles are invariably well written, presenting their information in such form as to be of practical use to the general practitioner.

"COLLECTED PAPERS OF THE MAYO CLINIC"

Collected Papers of the Mayo Clinic, Rochester, Minn. Edited by Mrs. M. H. Mellish. Volume XIV, 1922. Published June, 1923. Philadelphia and London: W. B. Saunders Company. 1923. Price $13.00.

Some of the enormous amount of work that is accomplished in the Mayo Clinic may be sensed on examining this latest volume of the collected papers which, we believe, is larger than any of the preceding thirteen volumes. It seems that there is not a single function in the human body that is not investigated in Rochester, and there is not any disturbance of function, nor any actual lesion, that does not come to the attention and under the care of the Mayo staff. The work represented by the papers reprinted in this volume of 1,346 pages of text is enormous and is roughly subdivided in contributions pertaining to the alimentary tract; the urogenital organs; the ductless glands; blood and circulatory organs; head, trunk and extremities; skin and syphilis; brain, spinal cord and nerves; organic and physiologic chemistry; general—miscellaneous; technic.

The editorial work by Mrs. Mellish shows the care and efficiency to which we are accustomed from her. The Index is well prepared and, therefore, of service.

"THE MAYO FOUNDATION"

Papers from The Mayo Foundation for Medical Education and Research and The Medical School. II. 1921-1922. Philadelphia and London: W. B. Saunders Company. 1923. Price $10.00.

Here is another volume of Mayo reprints, although it is so only indirectly, inasmuch as, instead of emanating from the Mayo Clinics, the papers originated in the Mayo Foundation. The subdivisions correspond to those of the volume that we have just considered. The individual papers cover numerous important subjects. Altogether, the volume must attract the attention of students.

"MERCK'S MANUAL

Merck's Manual of the Materia Medica. A Ready-Reference Pocket Book for the Physician and Surgeon. Fifth edition. Compiled and published by Merck & Co., St. Louis, New York, Montreal. Works at Rahway, N. J. 1923.

The Reviewer was delighted to receive a new edition of Merck's Manual which has been a frequent source of reference for many years. It contains an alphabetical list of drugs, chemicals and preparations in current use; therapeutic indications and prescription formulas; classification of medicaments according to physiologic action, and a miscellany comprising an essay on poisoning and its treatment; an exhaustive dose table; a chart showing the diagnostic points of difference between the eruptive fevers; also an obstetrical chart; thermometric equivalents; approximate measures; approximate metric equivalents. Then uranalysis; feeding table for infants, etc. A regular *multum in parvo.* It is a dandy book!

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

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About Honesty

LONG ago, Archbishop Whateley said that honesty is the best policy, although he who acts on that principle is not an honest man. It has also been said that the designation of "a good, honest man" nowadays is but a civil name for a fool. Commercial honesty is held to be an unavoidable condition for lasting success, and business men are honest because they have to be if they want to retain their good name in the business world.

These pessimistic views make it appear that honesty is being practiced merely as a means for furthering one's self-interest, and not as a guiding principle, for the sole reason that it is right to be honest. Whether this be true or not, need not be discussed here. One might almost be tempted to reverse the jesuitical axiom and say that the means justify the purpose. That honest people are not necessarily to be respected or are not always either altruistic or very good people, is the assertion of a French writer.

Looking through a back number of *Paris Médical,* recently, we came across a very clever arraignment of honest people who there are compared with rogues, greatly to their disadvantage—meaning to the disadvantage of the honest people. For one thing, this French writer maintains that the rogues stick together in a manner such as never is observed among honest people. Suppose, for instance, that you are attacked by toughs at night in a lonely quarter of the city. Do you think for one minute that the honest people who hear your cry will come to your assistance? Not much; at best, they may notify the police who arrive at the spot only possibly to find you dead.

But, supposing that you are a tough (the French writer employs the word *apache*) and are pressed hard by police officers; immediately all your "pards" will unhesitatingly risk their lives to deliver you from the hands of the minions of the law.

In defending a just cause, honest people evince a lukewarm ardor that contrasts strangely with the vigor with which rogues fight for their own interests. Vice is far less fragile than virtue. One may count upon the roguery of rogues; but, all too often, the honesty of honest people is wabbly. As a matter of fact, an honest man is one who is guided by the dictates of his conscience, provided no stronger interest leads him to act differently. Do you believe for one moment that any man, who is actuated solely by motives of honesty, has much chance of succeeding in his under-

taking, if his interests interfere with those of honest people who are in a position to influence his success? Hardly!

As this article was published several years ago, it goes without saying that the French author referred to the war for the practical application of his views. He asserted that the war was started by "apache nations" and that, here are elsewhere, birds of a feather flocked together, the enemy nations meriting, in his opinion, the designation of apache, every one of them. So far our French friend.

Now, what are the facts in ordinary life? Is the assertion justified that honest people are, often anything but good, really honest? To be sure, "Friend of the People", "Vox populi", "Constant Reader", and all these voluminous newspaper correspondents always have the courage of their opinions—on paper; and are very brave in criticizing the wickedness of highway men, of toughs, bootleggers, holdup men, and all the rest of them. Nor are they hesitant in placing the blame where it belongs (in their opinion!): on the police, on dishonest politics, on everything but themselves, not individually but collectively.

It seems to me (better write individually; for, this is my own, personal view) that the questionable honesty, the dirty politics, the frequent law breakings, the ignoring of the Eighteenth Amendment, and many other things that we should like to see eliminated, are as much at the charge of the honest people as at that of the rogues, toughs, thieves, and so on. It is, in one way, an occasion for crying: *"Mea Culpa! Mea Magna Culpa!"* Isn't it true that we, all of us, consider legal restrictions to be very excellent, oh! most suitable—for the other fellow? But, when they are irksome to ourselves, ah, well, we have discretion, we do not (no, never!) abuse things, and those legal restrictions may be dented just the least little bit, for our personal benefit. Of course, it would never do to let *hoi polloi,* the rabble, the plebs, in short, the apaches, and even the "common people" (what a superior air it does give us to talk about the "common people", to be sure!) exercise their own sweet will in interpreting the laws that they wish to obey and those that they may transgress. Never, in the world. You see, they are not sufficiently educated and cultured. But, as for ourselves; well, the case is entirely different. You see that, don't you?

We do not really see it. Deep down in our honest consciousness, we know that we transgress against the law of the land if we speed or make dandelion wine and fig wine or if we exact more than seven percent interest. The banks get out of that by charging the surplus as "commission". Beautiful word, that: Commission. Enables you to get so much more than the law would stand for, and quite legally, too.

However, what I was going to say, we all of us fracture the law occasionally. Even the women, and especially they, like nothing better than to beat the custom house officers and smuggle some cherished purchase through without paying duty on it. "Wrong? Why, pay duty on that little bit? Nonsense. No, it is not wrong. Why, the idea!!!!!" It makes one think of the poor young girl who had loved unwisely, had given birth to a baby and was being chided by her Father Confessor. She remonstrated: "But, Father, it is such a little, tiny baby!"

And then, the irregularities in certain politically managed offices, in politics generally; the cut-throat game of speculation and gambling in stocks; the disgraceful occurrences even in "the best society circles", the ever recurring scandals—if irregular, illegal actions and undertakings are indulged in by the educated, the cultured, the very leaders of society and of the people, is it any wonder that the "rabble" think that they are perfectly justified in shaking the plum tree while the shaking is good and promising?

It has often been said that a city, a country, has as good a government as it deserves, as it wants. That is true. And, it is equally true that public opinion and public morals are as good as, neither better nor worse than, the morals of the individuals making up the public. Those placed high, in positions of trust, in influential places, are looked to as examples, being in the public eye. If they infringe upon proprieties, on morals, if they break the law, the socalled lower classes will feel justified in following suit. The manifest truth of the saying that big thieves are honored with medals while little ones are jailed does not serve to impress the peepul very greatly with the worthiness of their alleged betters. The behavior of the latter offers, however, a convenient excuse for the transgressions of those whom the arm of the law reaches because they have not enough money or enough influence to wriggle out of its clutches.

It is my conviction that the state of public morals, of general honesty, whatever it may be, is in direct proportion to that maintained by the influential members of the population. Not only the wealthy, who are ever in the public eye because the newspapers record their

doings, but even more the professional people, preachers, teachers, lawyers, physicians. It is especially and particularly the professional classes whose representatives and whose individual members are watched and whose examples are followed by those who do not feel quite sure of themselves and want to lean on others, stronger than they are themselves.

The influence for good, and for evil, of the better educated is immense. Their responsibility is correspondingly great. Woe to the people whose leaders guide them astray, whose prominent citizens are themselves not free from reproach, ignoring and breaking the law for their own convenience. It is these who are, in part, responsible for the depravity of the rabble. It is they who help to maintain the apache population, by their example, by their influence and, sometimes, through their victims.

It is a mistake to suppose that men succeed through success; they much oftener succeed through failure.—Samuel Smiles.

USES OF PARAFFIN-WAX DRESSING

In the Abstract Department of this issue of CLINICAL MEDICINE (p. 776), there are two case reports reproduced from the *Journal A. M. A.*, in which two interesting methods for using paraffin-wax dressings are described. The second one, in which a varicose ulcer of long standing was treated with this application (of course, with suitable auxiliary therapy) is confirmed by some observations in our own and in the experience of others. Many varicose ulcers have been brought successfully to healing through the instrumentality of paraffin-wax dressings, rest and general hygienic measures.

The first of the two cases is of special interest. A young girl had been scalded and the wound had healed with much cicatrization of elbow and adjacent portions, leaving the arm flexed and almost completely fixed. Operation was done, removing the scar tissue and, for dressing, paraffin was used. Ultimately, the flexion being corrected by removal of the scar tissue, the arm healed perfectly with only slight discoloration of the skin. During the entire process, a flexible, light and comfortable paraffin-wax dressing was worn.

These are only some of the numerous uses to which this interesting substance can be adapted. There are many others. We have in mind, to pick out one instance only, the case of a very old man who was seriously ill with cystitis and various complications to which he ultimately succumbed. Although the physician had been assured by the nurse, on repeated interrogation, that there were no bed sores, the extreme restlessness of the patient caused him to investigate, when he found several ulcers which accounted for the great discomfort suffered by the patient. Washing with a mild antiseptic and then applying paraffin-wax dressing remedied matters and kept the patient in comfort for the rest of his days. We believe that this soft and pliable application will be found useful, especially in cases of bedsores.

There is one caution necessary, however. It has happened that the unduly prolonged administration of paraffin-wax dressings, particucially if it was applied very thick, caused a serious irritation of the skin. In one instance, where a physician had insisted on making thick and air-tight applications of parresine on severely burned hands—against our warning—and where those dressings had been continued far longer than would have been necessary, an unsightly and distressing verrucous dermatitis developed which was relieved only with difficulty. While, in the ordinary usage and with the exercise of common sense, paraffin-wax dressings are entirely innocuous, injury *may* follow their administration. Especially would we warn against the unduly prolonged application of these dressings without giving the skin a chance to be ventilated. We believe that it is a good plan to leave the skin or wound uncovered for short periods at frequent intervals. In this manner, undue softening of the epidermis and the lower layers can be avoided.

PERIODIC PHYSICAL EXAMINATIONS

In an article appearing on page 727 in this issue of CLINICAL MEDICINE, Doctor Siegelstein writes in favor of periodic physical examinations and criticizes the custom, that is now fostered in many places, of determining the presence or absence of satisfactory health conditions from the result of a urinalysis, the urine specimen being sent in and examined without any efforts being made to interview the subscriber for this alleged health service and without apparently paying attention to any other factors that might betray actual or impending functional disease.

We have no desire whatever to discourage the efforts that are made in the way of inducing people, more especially those in the best years of their lives and those who have passed

the climax, to take stock periodically in order to ascertain at the earliest possible moment when anything is wrong. Nevertheless, Doctor Siegelstein is justified in questioning the actual efficiency of this socalled service in the form in which it is being given.

While it is quite true that a urinalysis affords the physician, who knows how to read it, information that goes further than merely a determination of a functional ability of the kidneys, it happens often enough that such a urinalysis cannot possibly be made the basis of a clean bill of health. Yet, that is what the subscribers for health service are led to expect. As Doctor Siegelstein points out clearly, this incomplete examination may bring it about that the people who get it rest perfectly content, seeing that their urine did not contain any albumin or that it was otherwise designated as normal—while yet there might be found, elsewhere, evidence of impaired functioning and of impending ill health.

We wish to emphasize Doctor Siegelstein's insistence upon a complete and thorough examination which should be done twice a year. Such an examination should not only include all of the organs, in other words, be a complete physical inventory of the organism, but a very important part of it should be a very searching interrogatory in which the applicant (he need not necessarily be a "patient") is questioned regarding his habits of eating, drinking, working, sleeping, thinking, and in which advise is given to him wherever it is needed.

It has happened frequently enough in our own experience that a urinalysis was satisfactory and that, yet, on careful interrogation, and on physical search, some irregularities were found that yielded promptly to the adequate measures. While it is quite true that a complete urinalysis tells us much, it will not do to forget that it cannot tell us everything.

Edison's genius is ten percent inspiration and ninety percent perspiration.—Arthur Brisbane.

"ANSWER A FOOL ACCORDING TO HIS FOLLY"

(Prov. 26:5)

The fools are always with us, even like the poor, and usually they are blatant braggarts pretending a knowledge and a wisdom that they do not possess. So hopeless is their blockheaded narrow-mindedness that, as Schiller exclaimed, "against stupidity, the very gods themselves contend in vain."

The only way to deal with a fool is in accordance with the wise Preacher who, we are told, also gave us the Proverbs.

Recently, the annual P. S. C. Lyceum convened in Davenport, Iowa. We assume that the letters stand for Palmer School of Chiropractic Lyceum. A good friend sent us a copy of the *Davenport Democrat and Leader* for August 30, in which some remarks, made by Clarence Darrow, a Chicago Criminal Lawyer, were reported. Mr. Darrow said that the doctors get people coming and going, but, while one was in attendance when he was born, since he had no say in the matter (Mr. Darrow, not the doctor), he prefers not to have a medical man assist him in the act when he comes to die. Just a little bet; when Mr. Darrow does approach the valley of shadows, he will dismiss his Chiropractic friends and will call loudly for a physician.

Mr. Darrow took as his subject, "The Medical Profession," probably because he knows mighty little about it. Among other things, he declared that the doctors want compulsory vaccination and compulsory serumization (*sic!*). Yet, "there is no doctor who can explain the why and wherefore of vaccination."

It is just like in the case of story writers. That half of the people who does not know how the other half lives writes books about them. Where does Mr. Darrow get the idea that no doctor can explain the why and wherefore of vaccination? The wherefore is quite self-evident, because it is usually qualified by the word preventive or prophylactic. The why is outlined in every textbook on immunization and in numerous journal articles. If Mr. Darrow really wants to know, it will be an easy matter for him to find out. In the briefest possible terms, vaccination is practiced to assist nature to do what would occur under normal conditions but does not happen because the natural processes are deficient or in abeyance.

The thing that Mr. Darrow dislikes most about doctors is the continual change in their fashions, and, yet, he opines, this change must take place; "otherwise the M. D.'s could not hold their patients." For a lawyer whose reasoning power is supposed to be trained, this is a singular ratiocination. We might retaliate by saying what we do not like about lawyers (who usually make up the bulk of legislators) is the continual change in their fashions. The legislators have recently bestowed upon the suffering public many thousands of new laws.

All of them were drawn up and formulated by lawyers. Some of them contradict others that are already in existence. Many are so crazy that they do not stand the scrutiny of even a first-year high-school boy. Of course, to say, "you're another," is not a proper or dignified rejoinder. However, if physicians never changed their methods or even their views, they would justly be held up to obloquy because, where there is no progress, retrogression inevitably follows. The fact that physicians do change their views proves that they study and investigate. It is easy enough to be mistaken once and the wise learn from their mistakes and do better next time. If Mr. Darrow never changes his views, we are extremely sorry for him and for those who fall into his clutches.

Mr. Darrow asserts that "doctors have drugs to sell but they do not buy drugs for their own families." How does he know that? It is simply a fool statement, as could easily be proved. Mr. Darrow probably knows as much about doctors as he does about Sanskrit or Chinese. Otherwise, his peculiar assertions, all of which are false, could not have been made.

That remarkable address of Clarence Darrow, prominent Chicago criminal lawyer, was not the only titbit that was offered at the Chiropractic Lyceum. We are told that Mr. Palmer, the fountain-head himself, gave a splendid sales talk on "The Science of Being a Good Fellow for Better Business." Now, this is where we doctors can go to school to Palmer and learn: In the theory and practice of advertising and salesmanship. It is advertising, advertising in the fashion of Colonel Sellers and Mr. Barnum and other bunco steerers that has put Chiropractic on the map and that is maintaining it, even giving it a foothold before the law and keeping it in the people's minds. Surely, it pays to advertise. Also it pays to tell the people wild stories of people who got well after [not necessarily because of—Ed.] being treated—"adjusted" is the word—by Chiropractors. Of course, it is the part of wisdom to say nothing of the many who are treated and still keep on being ill. An occasional death or so need not deter them either, even though it may be shown that an adjustment of the spinal column is not the best curative measure in treating people seriously ill with pneumonia, with diphtheria and similar ailments. Incidentally, would any Chiropractor have the guts to adjust a patient with smallpox or with yellow fever, or some such virulent infectious disease? We doubt it. Supposing an unkind fate were to cause Mr. Darrow's immunity to smallpox to be exhausted; supposing, further, that he were to be exposed to infection and pretty soon started with the usual prodromal symptoms, including the atrocious backache, how soon would he fire his Chiropractor and howl for one of the physicians whom he criticizes now so harshly?

Centuries ago, Mr. Palmer's predecessors traveled through the land, robed in academic gowns, usually accompanied by a Punch and Judy show, perhaps by a clown, by a hurdy-gurdy, and by other things to attract attention. They would stop by the wayside, at country inns, on the village greens and give the people some good entertainment. Not much was required, because the tastes of the times were simple. After having put the yokels in properly contented minds, through a free show, it was not difficult to extract their pennies and shillings and procure the coins for bottles of alleged medicine, jars of salves and boxes of powder.

Today, and in Davenport, Iowa, the entertainments are given by splendidly-trained orchestras, singers and others and are broadcasted all over the country by radio. The consequence is the same; for, the program inevitably is followed by a rousing talk about the excellencies of what the Chiropractor has to sell and accompanied by vituperation of the regular medical profession. You can always get the people's attention by vituperation. The vulgar herd likes nothing better than to hear somebody else scolded and decried.

The moral? There isn't any. It is all pretty shoddy and vulgar and silly. There is one point, though. While, of course, physicians cannot advertise in the style of Palmer and do not use the radio for sending out little Jack-Horner messages, they can and should bring their wares before the people more than they do, by teaching, by showing how to keep well, how to prevent illness and by relieving actual disease in the most efficient manner.

There can be no rainbow without a cloud and a storm.—J. H Vincent.

THE CHEMICAL FOUNDATION SUIT

The consensus of opinion in well-informed circles is, that the Government's case against The Chemical Foundation has fallen down. In view of the importance of The Chemical Foundation's aims and ideals to the medical profession, a brief review of the testimony, as given at Wilmington, Delaware, will be of interest. As physicians, we are naturally con-

cerned about the preservation, independence and progress of the chemical industry in this country.

Before considering this testimony, it will be recalled that, prior to the war, there existed no real dye nor medicinal chemical industry in the United States. The manufacture and sale of the world's supply of dyes and synthetic chemicals was practically controlled in Germany or dominated by German interests. The war brought about a shortage in this country of important medicinals, dyes and chemicals. Our lack of chemical preparedness was shockingly demonstrated as early as 1914. The story of the submarine "Deutschland", bringing over the last of the German "Salvarsan" to this country, and its selling for as high as fifty dollars an ampule is well known.

It was at this time that far-seeing statesmen and broad-minded business men agreed that this country should never again be confronted with such a perilous situation. They planned wisely that an American chemical industry should be encouraged, protected and guarded. The first step to bring about this condition was the executive order of President Wilson, so authorized by Congress, delegating the power of sale to the then Acting Secretary of State, Frank L. Polk, who authorized the sale of German patents held by the Alien Property Custodian to The Chemical Foundation, Incorporated.

Mr. Frank L. Polk thereafter issued certain orders by virtue of this power and authority, authorizing the Custodian to make the sales of patents, copyrights and trade-marks to The Chemical Foundation, Inc.

It has often been pointed out that these German patents had never been operated in this country, but were simply taken out and held in the United States to prevent American firms from building up a chemical industry. It will be seen that this sale was made by the Chief Executive of the United States, acting under proper authority from Congress, of property absolutely owned by the United States and disposed of by him after months of the most exhaustive consultation with every possible person cognizant of the lessons of war and competent to advise, so that the final steps in that victory (our only victory!) might be insured and accomplished.

Following the consummation of this sale, and after three years of successful operation of The Chemical Foundation, which resulted in the American chemical industry obtaining its first foothold, the Chief Executive of the United States was advised by the Attorney-General to attempt to abrogate the solemn executive order of his predecessor. It was the first time in the history of the United States that the Chief Executive had been advised by his Attorney-General to violate a contract entered into by the Government with its citizens. And, so, suit was brought by the Government against The Chemical Foundation for the recovery of the patents, based upon the report of the Attorney-General "That the sale was made at so nearly a nominal sum that there was reason to believe that the Government had not faithfully observed the trust which was implied in the seizure of the property."

The Attorney-General went so far as to accuse The Chemical Foundation of conspiracy and to threaten criminal action. Later, it was realized by the Government that these charges were unfounded, and they were dropped. After months of delay, the suit was finally brought to trial in the District Court of Delaware at Wilmington, presided over by the Honorable Hugh M. Morris.

The Government's case was greatly weakened when Frank L. Polk, Acting Secretary of State, in President Wilson's second administration, was called as a witness by the Government in an attempt to prove that he, Mr. Polk, had been duped by the Alien Property Custodian, and by manufacturers, into the sale of the patents to The Chemical Foundation, through misrepresentation and withholding of facts. Mr. Polk, on the stand, testified that he knew all about The Chemical Foundation plan, and was not misled at any time. He further stated that efforts to end the German monopoly had been talked over with President Wilson, and that both he and A. Mitchell Palmer were in full accord with the idea of the need of ending foreign control in this industry.

Judge Morris indicated at this stage of the trial, that he did not believe the courts had any right to review the war acts of the President. Judge Morris stated, "The authority to make a private sale is a presidential matter. If he could seize and dedicate the patents to the American public, then it indicates that the President in disposing of these patents could take into consideration other than the financial return therefor."

Mr. Polk's testimony was a distinct blow to the Government, as it was thought by the prosecuting attorneys that he was not familiar with the facts surrounding the sale.

An extremely important point was brought out in the testimony of June 22. It was ad-

mitted by Government officials that there was a possibility of these patents reverting to the Germans if the Federal Courts should cancel the sale to The Chemical Foundation. Such action would destroy the work of the past five years in fostering an American chemical industry, and again give to the Germans the monopoly which they held prior to the war, and which they are again seeking.

On June 23, the defense, in referring to the testimony of the previous day, charged that "German influence" was the invisible plaintiff behind the Government in bringing this suit, and that the aim was to have the patents reverted to the former German owners. Mr. Kresel, for the defense, pointed out, in support of this allegation, that witnesses, called by the Government, had served as German agents prior and subsequent to the War, and that these witnesses had tried to discourage our Government in supporting an American dye industry. Letters and other exhibits were submitted to prove these charges.

Mr. A. Mitchell Palmer, showed that both he and President Wilson were fully aware of the situation regarding the German patents in this country, and that he was very much in favor of the sale of the patents to The Chemical Foundation. He stated that President Wilson aimed to kill the dye trust of the Germans in this country. Mr. Palmer defended the sale price to The Chemical Foundation and declared he had to form The Chemical Foundation in order to find a purchaser. Mr. Palmer's testimony was very much to the point and created a good impression. Colonel Anderson, representing the Government, did not ask him one question in cross-examination.

Mr. Francis B. Garvan gave the history of his acts as Alien Property Custodian in full and described in detail the formation and operation of The Chemical Foundation. Although the Government apparently considered Mr. Garvan as the arch conspirator, they failed completely in cross-examination in showing that he had not been entirely honest in all his transactions.

Dr. E. H. Volwiler, Chief Chemist of The Abbott Laboratories, after many protests by Government Council, was qualified as an expert and testified that, in general, the German patents under which The Abbott Laboratories had received licenses from The Chemical Foundation, were of little value and had to be essentially modified or changed altogether in order to make the products commercially feasible. An important ruling was made by the court when the witness declined to reveal the methods used by his Company in the place of the patented German methods. The court held that these methods need not be revealed in open court and that the information which might be so obtained was immaterial and irrevelant.

Doctor Volwiler testified that over fifty thousand dollars had been spent by The Abbott Laboratories in developing commercially feasible methods for the production of Procaine, Cinchophen, Neocinchophen, Acriflavine and Proflavine, and also gave evidence concerning the workability of the arsphenamine patents.

Judge Morris, on July 8, read into the record, statements from the book, "The Riddle of the Rhine," calling attention to the need of a self-contained chemical industry in any country for the sake of its own military protection.

Three textile witnesses, Mr. Thompson, President of the United Finishing Mills, Mr. Hobbs, president of the Arlington Mills, Mr. Cheney, Member of the firm of Cheney Brothers, representing respectively the cotton, woolen and silk manufacture and dyers, testified that there was no American monopoly of dyes at this time and that prices had been materially reduced under American manufacture and protection of The Chemical Foundation.

Colonel Thomas W. Miller, present Alien Property Custodian, testified that he had conveyed in two instances patents to The Chemical Foundation, but that, when he did so, information had been withheld from him and that he would not do so again. When he was recalled to the stand later, he was unable to enumerate the facts which he stated had been withheld from him. Colonel Miller admitted that he considered himself a trustee for the German owners of this property, and indicated that there was a good likelihood that they would be returned to the Germans if the Government again obtained them from The Chemical Foundation, and if the present administration remained in power.

The Government, in attempting to show that the German patents for drugs were workable, called Dr. Louis Friedman, a chemist employed by Mr. Metz, to testify concerning the workability of the Cinchopen patent. Doctor Friedman testified that he had readily made Cinchophen of commercial quality under this patent, contrary to the previous statement of Moses L. Corssley, Chief Chemist of the Calco Company, who had testified to the unworkableness of the Cinchophen and other patents.

Judge Morris ordered Doctor Friedman to proceed to the laboratory, under observation of other chemists and several United States deputies, and to produce Cinchophen according to the method of the patent. After twenty-six hours of continuous work, Doctor Friedman returned and it was found that he had produced only a small quantity of impure Cinchophen and that this method would not be commercially feasible, either from the standard of purity of product or of yield.

This report contains a few of the high lights in the trial which has been adjourned for the summer. The testimony has been completed. In the fall, briefs by the Government and the Chemical Foundation will be filed; after a study of these briefs, Judge Morris will hand down his decision. It is probable that, unless the Government withdraws the suit, it will go to the Supreme Court for final decision.

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From the September issue of *Industrial and Engineering Chemistry,* we reproduce a list of the witnesses who testified in the Chemical Foundation suit as communicated by Mr. J. Merritt Mathews.

Witnesses in the Foundation Suit

Editor of Industrial and Engineering Chemistry:

It seems to the writer that there should be recorded a list of the witnesses who testified in the suit of the United States Government against the Chemical Foundation in the United States District Court at Wilmington, the hearing having been concluded July 23. It is interesting to note how different interests were aligned and with whom those concerned preferred to class themselves. The following were called by the Government:

Karl Holdermann, director of Badische Anilin und Sodafabrik.

Albert M. Patterson, a prominent industrialist and president of the Textile Alliance, Inc.

Harry E. Danner, treasurer of the American Dyes Institute.

Will T. Gordon, formerly an attorney in the Bureau of Investigation, Alien Property Custodian's office.

Frank L. Polk, Undersecretary of State, 1918-19.

Harry S. Brown, of the Alien Property Custodian's office.

W. H. Swenarton, a patent attorney at one time in the Nitrate Division, Army Ordnance.

G. W. Storck, a certified public accountant of the Department of Justice.

C. R. Parmele, president of the Chinosol Company, manufacturing chemists.

Mrs. Margaret R. Wilson, of the Federal Trade Commission.

Harry W. Schmits, an accountant in the Alien Property Custodian's office.

Herman A. Metz, president of H. A. Metz & Company, and connected with other industrial concerns.

Thomas W. Miller, Alien Property Custodian since March 12, 1921.

These witnesses were called by the Government in rebuttal:

H. J. Galloway, special assistant to the Attorney General.

Geo. W. McCoy, director of the Hygienic Laboratory.

Walter G. Christiansen, research chemist at the Harvard Medical School.

Louis Freedman, research chemist with H. A. Metz & Company.

William O. Emery, Bureau of Chemistry.

H. D. Gibbs, formerly with the du Pont Company and now with the Hygienic Laboratory.

Paul A. Blair, a patent attorney of the Bureau of Ordnance, Navy Department.

Chester N. Myers, chemist with H. A. Metz & Company.

The witness appointed by the court to supervise the experiment of Dr. Freedman was Gellert Alleman, professor of chemistry at Swarthmore.

It should be noted that several of the witnesses called by the Government, including Messrs. Polk, Patterson, Danner, and McCoy, proved disappointing as witnesses for the prosecution, their testimony being favorable to the cause of the Chemical Foundation.

The witnesses for the Foundation were as follows:

A. Mitchell Palmer, formerly Alien Property Custodian.

Francis P. Garvan, president of the Chemical Foundation, Inc.

Joseph H. Choate, Jr., attorney.

Ernest H. Volwiler, of the Abbott Laboratories.

B. W. Dold, public accountant.

Henry B. Thompson, president of the U. S. Finishing Company.

Franklin W. Hobbs, president of the Arlington Mills.

Frank D. Cheney, president of Cheney Brothers.

Andrew W. Imbrie, treasurer of the U. S. Finishing Company.

Julius Stieglitz, University of Chicago.

William W. Buffum, auditor, Chemical Foundation, and formerly chief accountant, Alien Property Custodian's office.

Charles L. Parsons, consulting chemist.

Alfred H. White, professor of chemical engineering, University of Michigan, formerly lieutenant-colonel in the Nitrate Division, Army Ordnance.

Harry A. Curtis, director, Nitrogen Survey for the Department of Commerce, and professor of chemical engineering, Yale University.

James F. Stiles, Jr., accountant of Abbott Laboratories.

Elmer K. Bolton, director of the Chemical Section of the Dyestuffs Department, du Pont Company.

Ernest H. Klipstein, president, E. C. Klipstein & Sons Company.

T. W. Still, treasurer, E. C. Klipstein & Sons Company

M. L. Crossley, chief chemist, Calco Chemical Company

James B. Eliason, comptroller, du Pont Company.

M. R. Poucher, director of du Pont Company, and previous to 1915 vice-president of Badische Company of New York

At the counsel table for the Government was to be found H. W. Anderson, special attorney in charge of the prosecution, and among his assistants were H. J. Galloway, District Attorney Hughes, Special Patent Counsel Knight, and during the last few days of the trial H. D. Gibbs as chemical adviser.

The trial counsel for the Foundation was Isidore J. Kresel, and counsel attending were W. D. Guthrie, L. H. Boggs, Bernard Hershkopf and S. M. Stellwagen.

It will probably be many a day before a trial of equal interest to so many chemists and chemical industries engages the attention of our courts, and the individuals who are prominent in it are here recorded for the benefit of those who did not find it possible to follow the developments as they unfolded day by day.

J. Merritt Mathews.

103 Park Ave., New York, N. Y.
August 15, 1923.

Literature is an avenue to glory, ever open for those ingenious men who are deprived of honors or of wealth.—Disraeli.

TOLERANCE VS. BIGOTRY

In a moving-picture show (the name has escaped us) one of the actors was a policeman, named Clancy, who was a mighty good chap. His red-headed, freckle-faced (Wesley Barry, of course), ten-year-old son was a great favorite in the police station. One evening, as the police detail marched to its assignments, young Clancy remarked: "Everybody's out of step but the Clancys, Dad."

The joke is ancient, but it contains an important truth. The minority is always apt to asseverate and vociferate the justice of its contentions. The more its claims are antagonized, condemned and ridiculed by authorities, or by the majority, the more eloquent, the more assertive become the adherents of the minority. Soon they are so absolutely sure of the justice of their claims, they are so energetic in calling the majority mossbacks, ultraconservatives blinded by dogma, and so forth, that they themselves overlook the desirability of constant and continued progress, the necessity for investigating carefully their own teachings, the needfulness of careful and everlasting watching lest they themselves become hidebound and imprisoned by dogma, strangers to progress and development.

In scientific pursuits, it has never failed that dissenters, who might possibly have a modicum of truth or even a good deal of it in their favor, would ultimately wreck all chances for victory by failing to observe this imperative requisite, namely, the continued and faithful guarding of their ideas and theories, the necessity of developing them in accordance with established facts and the avoidance of narrow bigotry.

It will never do to forget that it is not given to us in many things to know all the truth. The established authority, the majority upholders of any scientific system, may have a part of it and the opposing minority may have another part. Neither one has the whole. Unless both work and study and develop, they will lose their modicum of truth and go to the wall. This has happened with numerous minority systems of healing in which the ruling school-medicine was opposed, called reactionary, narrow, ignorant and all the rest of it. The reason for the passing of these opposing minority systems lay in the disinclination of their protagonists to advance and in the fact that they were just as unwilling to consider the good lying in the established school as the latter was to admit any good in the minority.

In pleasant contrast to this and, possibly, just a little surprising are the ideas advanced by Doctor Arneson in his discussion on electronic medicine, which will be found among the leading articles in this issue of Clinical Medicine (p. 734). We are so accustomed to having ideas, theories and systems that are out of the ordinary offered to us as cut-and-dried, firmly-established truths, which we might take and live, or leave and go to grass, that the manifestation of an honest, searching spirit comes as a pleasant change.

Somewhat at variance with most of Doctor Abrams' disciples, Doctor Arneson questions emphatically the wisdom of declaring all of Abrams' teachings as final and as not subject for further development or improvement. He admits that these teachings do not always work out in practice and that there occur more failures than can be laid to the charge of the "human equation," that very convenient alibi.

Doctor Arneson's attitude, which shows the sincere and honest spirit of the true investigator, induced us to publish this article, although, some time ago, we had decided not to print any more discussions of electronic medication, at least for the present.

We are interested in Doctor Arneson's discussions, in the open-mindedness that he manifests.

It occurs distressingly often that those whose opinions differ with those of the majority loudly proclaim their individual right to their own views but, incidentally, they deny that right to everybody else. Everybody whose ideas are at variance with theirs is a fool or a knave, and that is all there is to it. The bigotry and narrowmindedness of free and independent thinkers is more distressing and more absurd than that even of the Puritans. When we find generous and honest thought and wide toleration of the opinions of others, we appreciate it. It is what should be general but, unfortunately, is not.

The best teacher is the one who suggests rather than dogmatizes, and inspires his listener with the wish to teach himself.—Bulwer-Lytton.

"DAMPHOUL THOUGHTS OF A SMALL-TOWN DOCTOR"

Our good friend, Dr. G. B. Morris, of Goldsboro, N. C., who is well known to the readers of CLINICAL MEDICINE through occasional contributions to its reading pages, has collected a number of his articles that have appeared in medical journals and in the daily press and is about to publish them under the general title "Damphoul Thoughts of a Small-Town Doctor."

Doctor Morris' ratiocinations are certainly original and they are expressed in terse, unafraid and convincing language. He presents his ideas in a manner that inevitably causes the reader to think and that makes him get busy and do something.

We are told that Doctor Morris' book is to be sold by subscription, the price being $1.50. It will make good reading for the doctor and, from what we have seen of it, we know that it will be appreciated and commended.

THE SURGICAL SEMINAR

After an existence of somewhat over one year, the Surgical Seminar has established for itself a place in the economy of CLINICAL MEDICINE that merits consideration, and it has proved its *raison d'être* through the excellent service that it has rendered.

This service is not limited merely to the surgical problems that are presented and discussed by the editor, Doctor Blech, and by his contributors. To our way of thinking, the Seminar has accomplished something far greater and more important than simply to provide some surgical information. The main object and, also, the outstanding result of the Seminar, as we understand it, is, that the manner in which the problems are discussed induces the reader to think surgically and to arrive at an understanding of his surgical problems by a process of logical ratiocination and deliberate reasoning.

That is something that is of essential importance for each practitioner, and the same method of investigation, of discussion, of cogitation should be employed in every case of illness that is submitted to the practitioner for consultation, whether the case be medical or surgical in nature.

We feel that CLINICAL MEDICINE may be justly proud of this particular department and that Doctor Blech's enthusiastic and vigorous pursuit of the ideal, that he has set himself, has brought results that are commendable.

For some months, it has been in our mind to undertake something similar to the Surgical Seminar, similar in method, for the discussion of medical problems. Our plans have not yet matured sufficiently that we could outline a definite plan. We hope, however, that, some day, we shall be able to do something along these lines for the detailed and logical discussion of medical problems.

THE MARRIAGE PROBLEM

In another department of this issue of CLINICAL MEDICINE, Doctor Candler discusses one phase of the marriage problem which has exercised the minds of sociologists, economists and just plain people for so many years. Doctor Candler deplores the fact that the young people of today demand so much at the start of their active lives, that they are not content to begin simply, in a small way, but want to start where their parents leave off, so to speak. Again, Doctor Candler sees potent reasons for the existing increase in divorces and for the light estimation in which the marriage bond is held, in a general loosening up of standards, through which the young people can play together with less restrictions

[*Concluded on page 748*]

Leading Articles

Non-Surgical Treatment of Cancer

By W. CLOVIS CUMMINGS, Oklahoma City, Oklahoma

SO much has already been said and written about cancer, that it would seem impossible to add anything more to what is now on record. But, granting that this be true, it is not always in vain that we restate and emphasize that which has gone before and, in so doing, may perhaps reach some who have not yet heard the message, as well as succeed in reviving the interest and quickening the appreciation of those who have heard but have failed to heed.

During the past ten years, the death rate from cancer has steadily mounted, and this despite the fact that there has been a vast amount of effort put forth to make the general public more alive to the dangers of this terrible scourge, and to teach it to assist the medical profession in its efforts against it by permitting early diagnosis and prompt remedial measures. Many more cases of cancer have come under observation and care, and many more cures have been reported; but, notwithstanding all this effort and this apparent progress in understanding and conquering the disease, the actual number of fatal cases has continually become greater until at the present time cancer stands third in the list of death-causing diseases, last year claiming nearly 100,000 victims in the United States alone!

When we are confronted with these astounding figures and realize that all the labor and diligence in spreading the cancer propaganda of the past ten years seem but to have increased the incidence of the disease, the whole situation appears wellnigh hopeless. The death-rate from tuberculosis has steadily fallen; many of the affections of infancy, which once exacted such appalling toll at the very threshold of life, have been controlled to the extent of more than half their victims rescued; typhoid fever has become almost a medical curiosity; but all the powers of medical science still seem impotent to check the ravages of malignant disease.

Surgical Results Not Promising

Let us consider for a moment what these powers are, and examine the weapons with which the fight against cancer has heretofore been waged. Until a very few years ago, the only treatment for malignancy recognized by the medical profession was the surgical—to cut out the growth, offered the only chance of recovery. That this chance was at best a slim one, is attested by the figures offered by some very distinguished surgeons, in 1915. At least one-half the cancer cases were regarded as inoperable when first coming under the surgeon's observation, and of the remaining 50 percent, that went under the knife, more than half suffered a recurrence and eventually succumbed to malignant disease. As a well-known specialist has put it: "In round numbers, sixty out of every hundred selected cases operated upon by our best men will be dead or dying within three years after the excision operation, from recurrence of the disease. Moreover, it is generally conceded that an additional twenty of every such hundred will be dead or dying by the end of five years, from the same cause."

And this, after the most renowned surgeons all over the world have exerted their powers to the utmost and marshalled their highest skill in the endeavor to prevent just such an outcome. Is it any wonder that a great fear of "cancer operations" has arisen among the laity, or that many members of the medical profession have lost faith in the efficacy of surgical treatment?

Hopes from Radiation Disappointed

With the advent of the Röntgen-ray and shortly after, of radium, as adjuncts to our therapeutic armament, new hope for the cancer sufferer arose on every side. It seemed as if in radiation we had at last found a reliable and efficient means of getting rid of malignant growths. Every surgeon recognized that, in cutting into such a growth, he ran a very grave risk of scattering the diseased cells into adjacent, previously healthy, areas, and, in order to avoid this, he had been including more and more healthy tissue in his

Fig. 1.—Mr. D. Before treatment. Note cancer in corner of eye, breast, chest and side of face.

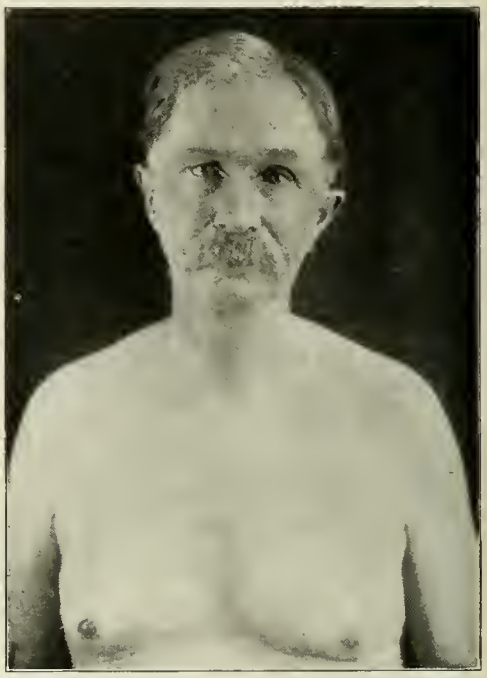

Fig. 2.—Mr. D. One year after disappearance of cancer, following five weeks' treatment.

excision and had also learned to look for and remove any possible seats of metastasis, even if located at some distance from the original seat of disease. This, of course, made the operation still more hazardous and proportionately more dreaded; equally of course, it left the patient who chanced to survive in a still more terrible state of disfigurement.

The use of radiation, however, seemed to offer a way to avoid the surgical dissemination of cancer-cells and at the same time make it unnecessary to excise such a large area outside the tissue which is actually diseased. Röntgen rays were first applied to the wound from which a cancerous growth had been surgically removed, in the hope of destroying any remaining malignant tissue; later, radium was used still more successfully for the same purpose. The results in many individual cases were excellent; indeed, the method now has the approval of most of the high authorities on the treatment of cancer. But, this does not seem to have lessened the incidence of cancer to any marked degree, nor do the latest census figures show any decrease in the final fatality of the disease.

Neither do Röntgen rays or surgery show much more brilliant results when used alone. The employment of either of these curative means requires a very high degree of skill, and a technic which can be acquired only through long study and practice, just as is the case with surgery. Unfortunately, a great many "x-ray specialists" and "radium men" have engaged in the treatment of malignancy, who have never taken time to perfect themselves in the technic they are attempting to employ and, in addition, are very frequently not supplied with proper equipment to administer the treatment, even if they knew how to do it. Much of the lack of success in the use of Röntgen rays and of radium may perhaps be traced to this cause; yet, there remains a good proportion of cancer cases which have come under the care of the most highly trained specialists, have received the benefit of every resource opened by the use of these elements, and yet have not been cured in sufficiently high proportion to warrant our feeling that the problem of the control of cancer is any nearer solution than it was twenty years ago.

Erroneous Views Concerning Nature of Cancer

It seems to me that the whole difficulty lies in the fact that every one, physician and patient alike, has failed to realize that every malignant growth is something more than a merely local condition. Despite all the study which has been concentrated upon its "pathology", no true understanding of it has ever been attained. The dictionary tells us that

Fig. 3.—Mr. M. Epithelioma of the back, 15 years' standing.

Fig. 4.—Mr. M. Eighteen months after treatment.

"Pathology is the branch of medical science that treats of morbid conditions, their causes, nature and so forth." Therefore, in studying the pathology of cancer we should first give attention to its *cause,* even more than to its *nature,* certainly *before* giving attention to its nature. We have heard and read a great deal about the histologic changes which take place in the diseased tissue; we have had the proliferating process by which the cancer cells are built up explained to us in great detail; but the *pathogenesis,* or the cause, origin and actual pathologic evolution of the disease, has been very largely overlooked.

The general conception has been that cancer, at the outset anyway, is a purely local disease, and that, if the evidence of malignancy can be cut out or burned out soon enough, the conditions which led to the growth will be removed at the same time. The possibility of the existence of constitutional derangements of which the malignant growth was but the "outward and visible sign", is all too frequently, wholly neglected.

L. Duncan Bulkley, senior physician to the New York Skin and Cancer Hospital, has remarked that "while laboratory and other investigations have not demonstrated any single cause of cancer, and have yielded only negative results, they have, by elimination, cleared the way for a study of its cause along other lines, which are bright with promise. They have also established certain facts which confirm the views which from time to time have been briefly expressed by many who were best acquainted with cancer; namely, that, because of its constant recurrence, and from the failure of surgery to check its rising mortality, it must be of a constitutional nature intimately associated with dietary or nutritional elements."

What is the Cause of Cancer?

Following along the line of reasoning laid down by this investigator, as we now know that the local lesion which we term cancer is but a deviation from the normal life and development of the body cells which, from some cause as yet undiscovered, have taken on an abnormal activity, we are forced to seek an explanation in an alteration of the enzyme content of the cell, an alteration which has been caused by defective nutrition, this in turn depending upon a state of faulty metabolism.

To justify such a course of reasoning, we have only to turn to laboratory analyses of the blood of cancer patients which has repeatedly been shown to undergo alterations from the normal, seemingly indicating a change in the mechanism of the blood-producing organs. To a lesser degree, changes have been demonstrated in the internal secretions, all pointing to the unvarying presence of a marked disturbance in metabolism in all cases of cancer.

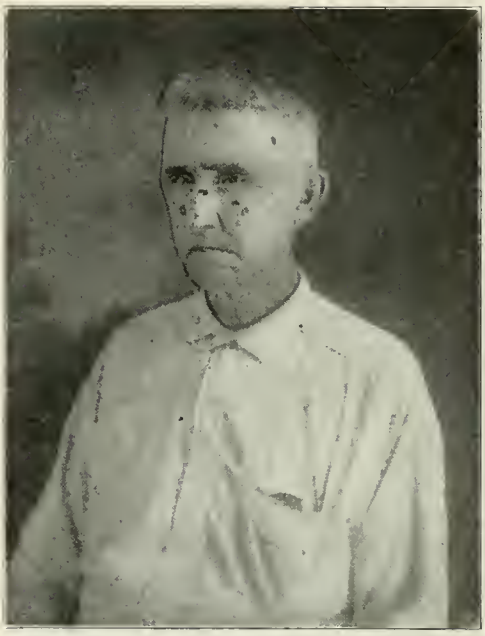

Fig. 5.—Mr. H. Multiplicity epithelioma of face.

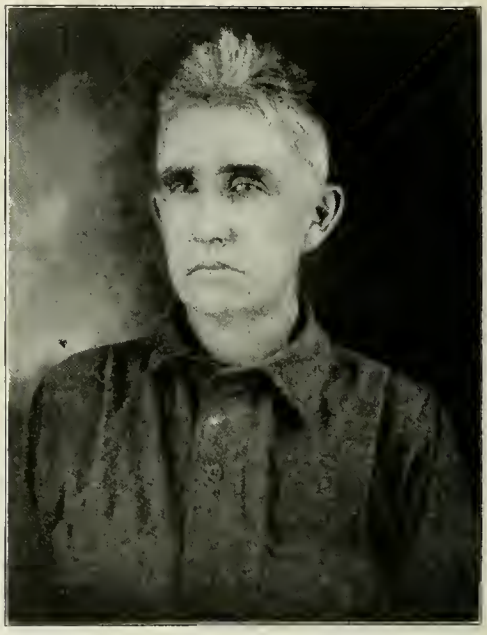

Fig. 6.—Mr. H. Six months after treatment.

To use Bulkley's own words: "At present, no clear demonstration is possible of the direct method by which errors of metabolism effect the changes in cells, to which we give the name *malignant,* any more than we know how other alterations in the body are produced, such as arterial degeneration, bone changes, obesity, etc., which are recognized as due to metabolic derangement"; but just as "repeated observation and report of the spontaneous disappearance of cancer, by careful and competent medical men, show that conditions of the system may arise which are antagonistic to malignant growth", in like manner we are able to point to "other conditions of the system which favor the aberrant actions of previously normal cells, resulting in cancer".

These observations have been confirmed by many eminent physicians, even by those whose belief in the efficacy of surgery still remains unshaken. In 1914, William J. Mayo said: "Cancer of the stomach forms nearly one-third of all cancers of the human body. So far as I know, this is not true of the lower animals nor of uncivilized man. . . . Whenever cancer is found with great frequency in certain situations, or in only one class of individuals, it appears to depend on a single cause" (as the kangri fire-basket burn of the natives of Kashmir or the betel-nut mouth lesion of the natives of India); "this is probably true of gastric cancer. Is it not possible, therefore, that there is something in the habits of civilized man, in the cooking or other preparation of his food, which acts to produce the precancerous lesion? . . . Plant life is parasitic on the inorganic world and depends on chlorophyl for its potency. We should know more about chlorophyl upon which in the last analysis life depends. Animal life is parasitic upon plant life, man on both, plant and animal and increasing rapidly the flesh intake. Within the last one hundred years, four times as much meat is taken as was before that time. If flesh foods are not fully broken up, decomposition results and active poisons are thrown into an organ not intended for their reception and which has not had time to adapt itself to the new function".

Mayo also emphasizes the possibility of acidity playing an important role in the production of cancer, for it is a remarkable fact that malignancy is common in the stomach where the secretions are acid and practically never occurs in the small intestine where the secretions are alkaline.

The views of surgeons, and of those who are beginning to believe that we must go farther back than the local growth if we are ever to master this disease, will thus be seen to be not so widely divergent as at first appears. As Robert Bell, a Scotch surgeon, who has now abandoned the attempt to extirpate cancer with the knife, has put it: "If ever we are to succeed in stamping out this scourge, we shall be compelled to investigate

Fig. 7.—Mrs. McC. Cancer of breast, 7 years' standing.

Fig. 8—Mrs. McC. After five weeks' treatment.

Fig. 9.—Mrs. G. Epithelioma of the face and body.

Fig. 10.—Mrs. G. Six weeks after treatment.

the various conditions of the body which are invariably in evidence before the local manifestation makes its appearance. We shall take into account those contraventions of Nature's laws which have militated against cell-life, for it must be admitted that cancer is essentially and intrinsically due to perverted cell metabolism . . . cancer is Nature's protest against disobedience, and is the penalty she imposes upon those who, though, perhaps, more from the force of habit than knowledge or willingly, have ignored her

Fig. 11.—Mrs. A. An old ulcer, resembling a cancerous condition.

Fig. 12.—Mrs. A. After four weeks' treatment.

Fig. 13.—Mr. G. Left ear entirely gone, cancer five years' standing.

Fig. 14.—Mr. B. Cancer of nose, starting as a small scaly irritation.

teachings".

To Cure Cancer, Go Back to Its First Cause

We have now reached the point where it is evident that, in order to get rid of cancer, we must not depend upon merely extirpating the local growth, but must go farther back and correct the constitutional conditions, which gave rise to it in the first instance. During the past three or four years, a great deal of discussion and investigation has gone on in

Fig. 15.—Mr. B. Cancer of forehead, 17 years' standing.

Fig. 16.—Mr. B. Eighteen months, after five weeks' treatment.

relation to the nature and function of the endocrine glands, and the increased knowledge of this part of the human organism has poured a flood of light into many hitherto dark corners of the medical field. It has been scientifically demonstrated that faulty metabolism will account for many ills and irregularities heretofore either wholly misunderstood or only partially recognized, and it seems probable that the pathogenesis of cancer may very well be greatly illuminated by further study and investigation along these lines.

Early Attention Essential

These changes in view in regard to the origin and management of cancer should not, however, be taken to mean that the general public should be any the less impressed with the vital necessity of early recognition and prompt treatment. The general practitioner should be even more alive to detect the very first evidence of the disease and to make use of all his abilities in combating it. The relation to acidosis pointed out by Mayo should always be borne in mind, and the presence of obstinate and chronic constipation, which is almost always noted and upon which Bell lays so much emphasis, should at once arouse the physician's suspicion. The waxy, yellowish complexion, the sense of weakness upon slight exertion, and especially any bleeding from the rectum or vagina, are all indications that should be promptly recognized by patient and practitioner alike.

Endocrine Support Useful

The course of treatment to be carried out must, of course, be dictated by the medical man who has the patient in charge. To those who have become convinced that surgery does more harm than good, there are still many other avenues open. Besides the ever-increasing number who are pinning their faith upon radium alone, there are many who have reported success by following the dietary regimen of Bulkley and Bell, the chemotherapy employed by Strobell, or the application of the diathermic current as advocated by Geyser. In my personal experience, attention to endocrine imbalance has been productive of most gratifying results. It should be our aim to raise, if possible, the functional efficiency of the body's resources by means of agents (such as the endocrine derivatives, thyroid in particular) which, by markedly increasing the function of the adrenals, correspondingly augment the proportion of autoantitoxin in the blood and other fluids. The curative process may then be favored by the local application of escharotics, the cautery, or other means which relieve pain and arrest hemorrhage. Along such lines, it is my firm belief, the cancer therapy of the future must inevitably lie.

253 American National Bank Building.

[*For literary references, see page 773*]

A Note on the Non-Surgical Treatment of Malignant Tumors*

By EDWARD AHLSWEDE, Hamburg, Germany

EVER since malignant tumors have been known to originate from body cells, therapeutic experiments were mainly directed toward the tumor-cells themselves. Though the inflammatory infiltration and hypertrophy of the tissue surrounding the tumor-cells had very early been noticed, these reactions were considered to be at the most due to irritation.

Advancing experience in immunization gradually led to different views. An active defensive action of the attacked tissue was assumed to exist, while the frequently extensive necrosis of the tumor, surrounded by tissue alterated by inflammation, could not always be explained by simply assuming an inadequate or insufficient nutrition of the tumor through the blood circulation. It appeared probable that immunizing substances, secreted by the cells of the inflamed tissue, had a destructive influence on the tumor cells. This would point to an active immunizing process.

Another important discovery, based on inoculation experiments with animals, then also showed that a tumor-immunity can be attained only with living tumor material. Thus, an attempt at passive immunization would stand a feeble chance, from the beginning. However, the tumor immunity does not appear to be specific in character. The essential point is that only material of the same species be used. Yet, Bashford, Haaland and others showed that the antibodies must be homologous to the tumor-cells if the immunizing process is to be strong enough, while a preliminary treatment with tumor-substances of a foreign species may be the cause of anaphylactic symptoms. Bashford, Burgess, Murray, Da Feno and Goldmann found that cells adjoining the inflamed tissue (lymphocytes, plasma-cells) were the possible birthplace of the antibodies.

Ehrlich's hypothesis postulates, in the malignant tumors, a struggle for the nutritives between the tumor cells and the normal tissue cells. Corresponding to the varying toxicity of the bacteria, Ehrlich assumes a varying avidity of the tumor or tissue cells for these nutritives, whereby either the healthy tissue or the tumor-cell masses finally command the situation.

This opinion was opposed by Bashford and others. Bashford holds that the resistance which the tumor cells oppose to the tumor represents an active, acquired adaptation in the sense of an active immunization. Basing their experiments on this idea, Bier, Ritter and Teilhaben tried to support the local tissue reaction by provoking an artificial hyperemia and inflammation. Thus, the application of large dry-cups made possible the complete cure of a sarcoma of the shoulder which showed no signs of metastasizing even ten years later. Surgeons know that erysipelas often considerably impedes the development of a malign tumor. As the artificial hyperemia did not prove satisfactory, Bier's next step was, to transfuse foreign blood. Some of his successes were encouraging. However, the reaction of the tissue was often so severe and the symptoms of intoxication due to the dissolved tumor cells so serious, that this method had to be abandoned.

Recent experiments with the intramuscular injection of foreign proteins, which have deservedly gained so much importance in modern treatment of many skin diseases, gonorrhea, arthritis, etc., led to the attempt to influence the inflammatory tissue reactions. The very encouraging experiments with a germ-free and toxin-free milk-albumin solution have not yet reached their final stage. The following case may demonstrate, however, that foreign proteins can effect a strong reaction at the site of a tumor, causing a distinct shrinkage and diminution of its mass. Of the proteins suitable for non-specific "foreign-body" treatment, those obtained from milk, either in the shape of a germ-free and toxin-free milk-albumin solution or as a 5-percent sterile casein solution have proved therapeutically most effective in our hands.

Case

Patient D., first reported on Sept. 10, '21. For two years, increasing icterus and loss in bodyweight. Six months ago, patient had received several weeks of hospital treatment and was then sent home at his own request. Diagnosis: Inoperable carcinoma of liver. Stagnation of vena porta and complete occlusion of the ductus choledochus is found. Liver enlarged.

Operation being impossible, protein injec-

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tions were made. 1 Cc. of a 5-percent solution of casein was injected into the gluteal muscle once a week. A slight chill usually followed the injection, without any further disturbance. The icterus showed distinct improvement. The feces turned brown, from grey; the bilirubin contents of the urine considerably decreased. On the 12th of April, the injection was followed, 6 hours later, by vomiting of coagulated blood (a cupful). From this day, the feces were dark brown and there was no more occlusion of the choledochus. Further injections of casein were not made.

The injection of 2 Cc. of blood (drawn from the vein of a nephew of the patient) into the gluteal muscle had the following effect: Patient complained of extreme fatigue (no chills) while the very troublesome itching disappeared spontaneously. While the feces remained brown and the icterus regressed, intense fatigue was the only dominant symptom. Cachexia due to carcinoma finally proved fatal.

The possibility of influencing a tumor by intravenous injections of proteins seems to be proved by this case. Further experiments in this direction, I hope, will give more exact results which I expect to support by pathological findings.

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Periodic Physical Examination

By L. E. SIEGELSTEIN, Cleveland, Ohio

DR. WOODS HUTCHINSON, perhaps the foremost writer on health problems in this country, said in a recent article that it is only a question of time before the medical profession will be devoting its greatest efforts towards the prevention of disease, instead of towards the healing of disease.

I believe that Universal Periodic Physical Examination will accomplish this. Periodic physical examination is the means employed to detect many of the early manifestations of disease, before structural changes in the tissue have taken place, and to adjust the physical economy in such a manner as to prevent tissue destruction or to arrest it if it has already started.

For, though Medical Science has not yet reached that stage where it claims a cure for all diseases, it has proven effective in preventing and checking tissue destruction when this is detected in its incipiency.

The absolute necessity of periodic examination has also been forcibly brought to our attention during the draft period of the World War. Dr. W. A. Evans writes in the *Chicago Tribune*:

"A great many men who thought themselves physically sound have been rejected by the medical officers of the Army. In the opinion of the examiners, they were not only physically unfit, but they were incapable of being made fit by months of training in camp."

Had there been no draft with its compulsory physical examination, these men, and there were at least half a million of them, would have supposed themselves in good physical condition.

If, with the examination of a million and a half men between the ages of 21 and 31 years, it has been found that half a million are unfit and incapable of being made fit, what would be the result, were all men and women to submit to an examination?

Think of this condition, not necessarily with the end in view of stopping the death rate among grown men and women. Still, let us remember always that there is no fixed law of mortality, and that it is entirely within the bounds of scientific possibility to increase the vitality of the age of 40 to that of the age of 20.

Death rates are not due to time, but rather to what happens in the course of time, i. e., infection, mental and physical strains, abuses of all kinds and other bad influences.

Do not let us wait for another world war before taking an inventory of the nation's health. Make periodic examination of the human body available to all the people, now, and at frequent intervals hereafter. By detecting the slightest fault in the physical condition and by correcting the cause, you increase the resistance to disease and prolong life. For, with the exception of mutilations, practically all of the impairments listed evidenced ill health which would have been preventable in over 60 percent of the cases. The rational, common-sense plan is, to search for these factors in each life and do everything possible to eliminate them.

A General Custom Applied to Persons

This principle is applied to every organism in society; why not to the human body? A

thorough and complete physical examination should be made of the entire body, of all the organs, and not only a part of the body or some special organ. In this manner it is possible to ascertain the exact physical condition. Then, if any evidences of impaired health are found, proper instruction and guidance must be given.

In the industrial field, outside of the routine case of injuries, there ought to be periodical general-health inspection of each man, the same as it is extended to the plant and machinery. Every captain of industry either is or employs an expert capable of putting his plant on a 100-percent efficiency basis. Since this is a common practice, especially with regard to machinery and production, is it not time to go a step further and regard Man power as an important factor in industry and deserving of periodic inspection? A physically inefficient man is a liability on the payroll. An efficient man is an asset.

Surgeon General Rupert Blue tells of a large manufacturing concern in West Virginia that followed the advice of a health expert and, at a cost of over $5000, installed a clinic for social diseases. The president of this concern informed the United States Public Health Service that, as a result of the clinic treatment, labor efficiency was improved over 33 percent which (he figures), as a return on the investment of $5000, was equal to $40,000 profit, the first year.

But, why stop at social diseases?

The physical examination should cover every region of the body, from the color of the hair to the shape of the toenails externally, and all of the internal organs; not only the vital organs—all our organs are vital, the smallest ductless gland as well as the heart. There should be made a complete chemical and microscopical examination of the urine (24 hour specimen) and a hemoglobin and differential test of the blood.

This complete examination will serve as an index for future comparisons and should therefore be complete in every detail. For, by such examination only, can the apparently healthy be assured that they are not suffering from the beginning of some subtle physical impairment.

Mere Urine Examination Insufficient and Misleading

Preceding most illnesses, there is usually a period of impairment (socalled early manifestations) when the structural changes in the body are too insignificant to cause conscious symptoms. This is the curable stage of the socalled incurable conditions. This is the time when a thorough physical examination will detect the early structural changes and insidious development of unsuspected diseases (nephritis, tuberculosis, diabetes and other chronic conditions) and when, by proper treatment and advice, their onward march to destruction can be stopped or prevented. Even conditions that are not entirely preventable are at least postponable.

It is important to avoid the dangerous advice that is based solely on an examination of the urine. As a rule, the extent of such an examination consists of: A physical examination, i. e., color, reaction, odor, specific gravity, and transparency; the total solids are seldom computed; a microscopical examination, namely, a search for casts, epithelium, blood cells, etc.; a chemical investigation, which means, a search for albumin, sugar, urea, bile pigment, indican, and the chlorides, carbonates, phosphates, and sulphates.

No attempt is made, usually, in any of the finer details necessary to differentiate between acute and chronic cases, between nephritis, pyelitis and cystitis and many other details so essential to proper therapeusis. Even admitting that some of these laboratory examinations are perfect in every detail, the common procedure of sending the resulting report to the subscriber for alleged health service is, to me, erroneous. I can see only two results from such incomplete examinations: Either the patient believes himself a well man because his urine examination is normal, or he is unduly alarmed because the report shows a trace of albumin or sugar. This is illustrated by the following cases:

Case No. 1.—J. G., on his way home from work, had a dizzy spell, fell in front of an automobile. Fortunately for him, the brakes worked to perfection. While treating his bruised condition, he stated that he had had dizzy spells and headaches for years which sometimes ended in nausea and vomiting; but he added that he had his urine examined every 3 months and the report came back reading: "We have examined the specimen submitted to us and are pleased to advise that our findings are normal. No albumin was found." Hence, he thought he was all right and needed no medical attention.

Examination found a normal, healthy looking man, 40 years old. Head normal, eyes normal, tonsils and lymph glands not enlarged. Thyroid slightly enlarged, colloid condition. Heart normal in size, no murmurs, pulse regular and rhythmic, rate 60. Blood pressure

140-80. Chest negative to percussion and auscultation. Abdomen slightly prominent. No tumor masses. No tenderness. Extremities all normal. The reflexes present and normal. No Babinsky, no clonus, no ataxia either proximal or distal. No change in sense of touch, pain, heat, cold, or vibratory sense. X-ray showed abscesses of teeth, 2 upper, 2 lower. The teeth were removed.

Present condition, no headaches, no vertigo since October, 1922.

Case No. 2.—S. B., presents himself, a living skeleton, lamenting his physical condition. Has lost 35 pounds in 14 months, yet he has watched himself minutely. Has lived on milk and crackers and his condition is growing worse. When asked why he was dieting or starving himself, he pulled out of his pocket 9 urinary examinations, all showing albumin which, he said, meant Bright's disease. He was curing himself by dieting. Has seen no doctor, for, as long as he knew what was wrong with him, he did not need medical advice, until now, when he could endure it no longer, and came.

My first impression was, that I had a neurasthenic before me and that the albumin was not a symptom of Bright's in his case, but rather of an orthostatic form, because of an anterior curvature of the spine (lordosis). This opinion was later confirmed by a group-clinic consultation. After this patient was put back on a normal life and a normal diet, he regained his weight and ambition, in spite of the fact that albumin is still and always will be present in his urine.

Had either of these men gone to his physcian for a thorough physical examination and laboratory findings, J. G.'s cause of vertigo could have been detected and his injuries prevented, and S. B. would have been saved months of suffering from neurasthenia, brought on by fear of the impending danger of a disease that he did not have.

Sending a sample of urine to a drugstore or commercial laboratory for examination and report is a wise and useful habit, the importance of which no one will deny; but, of what use is the examination to the patient, unless there is some one competent to interpret the findings of the report? One who is not obsessed with the theory that the kidney secretions are the *bête noir* of all preventable diseases and contain all that is vitally important to the prophylaxis of disease, suffering and premature senility. Indeed, one who knows that the heart, lungs, alimentary tract, teeth and tonsils are still worthy of our consideration and that the correlation and interdependence of all our organs have not ceased to be essential for harmonious function. One who is not a recluse, exclusive in his adherence to one specialty or to one particular school of medical procedure or doctrine.

They tell us that China, whose civilization is centuries older than ours, has solved this problem by what is, to us, a unique arrangement. Physicians in China are paid to keep their patients well. When the patient is ill, the doctor's fees cease until his patient is restored to health. An Oriental interpretation of periodic examination. There is much to recommend this plan; for, the doctor's duty is, to keep people well and, to do this in a modern manner, requires not only a degree of medical efficiency, but a willingness of personal effort, to initiate Community Health Work and thereby seek to discover the underlying social and economic causes of our patient's illness. In our endeavor to banish disease, we must determine the assets and the liabilities of the human body as a basis, or starting point, for biologic behavior.

This means Periodic Physical Examination.

417 C. A. C. Building.

[Read the editorial on page 711.—Ed.]

The Cause of Insanity and the Pseudo-Psychosis of Puberty

By JOHN J. A. O'REILLY, Brooklyn, New York

WHAT is the cause of insanity? asks the ambitious questioner. That question is almost as embarrassing as the classical, "Have you stopped beating your wife? Answer, yes or no." Nevertheless, asked in good faith, the query is entitled to an answer: Insanity is a result of faulty nutrition arising in the anatomy (structure), physiology (function), and chemistry (construction and destruction), proceeding from heredity or acquired from the physical or social environment. That embraces everything from the epileptic insanity derived from an alcoholic parent to the cloudy mind and silly gibbering

of the convivialist of *ante*prohibition days or the "hip"-diseasist of *anti*prohibition days, acquired at so-much-per-quart; it is sufficiently comprehensive to include idiocy, which is not insanity but the status of a mind that "never could know, and never could understand".

I believe the foregoing to be a strictly scientific answer, but I know that it is far from satisfying to the ambitious questioner; so, we must try to restore his confidence in our great wisdom by letting him have a view of some fundamental differentiations.

To be insanity, the condition must constitute a change in the personality of a person hitherto regarded as a "regular fellow", and that change must be consistently continuous over an appreciable period of time, which would eliminate Mr. Henpeck who suddenly asserts himself, mimics a cave man, and then lapses into a "yes-man", as heretofore.

Then those manifestations must appeal to the observer as inconsistent with the opportunities for intellectual advancement enjoyed by the *average* person in the same environment in which the observed has his being. For instance, consider a humble old lady, living in a modest neighborhood made up of old-fashioned people "from her own place at home", who successfully builds up a grocery business and out of its earnings maintains a comfortable home and affords her children those opportunities for education which were denied her because of the poverty and isolation of her own parents. She should hardly be deemed a "senile dement" because she takes a drink out of a tin dipper at the sink and wipes her nose in her gingham apron, whether the observer be the ambitious questioner or an alienist with a string of hospital attachments a mile long—however much the old lady's inelegance of conduct may shock the esthetic sense of the more fortunately placed observer in whose set such things are not done, you know. I mention this because the liberty of a woman was actually thus jeopardized in a Court of Law, and because it emphasizes the need for common sense as the basis for psychanalysis.

An Illustration

Not every case of insanity is hopeless, because we have a differentiation between functional and organic psychoses, with the intoxications as a connecting link. Let me make the ambitious questioner wise on this point:

Standing on a little bridge, in the country, spanning a small stream which is the stem of a 'Y', of which two tributaries are the parent arms, one notes a field of corn beaten down by the wind and rain; it is not a saddening picture, because we know that, when the sun appears and the air dries the corn, it will straighten and be all the better for a little judicious 'hilling'. To the right of the stream, however, is seen a magnificent oak tree with a great, gaping, black hole at its base. We are sad, because we know that this means organic disease, decay and death. Beneath the bridge, flows the stream, polluted by the discharges of a factory along the line of one of the parent-arms, which the purity of its partner can never overcome; or perhaps the pollution has been acquired along the pathway of the stem itself and we are apt to fear that this pollution has been responsible for the organic disease at the roots of the oak and may, by seepage, convert the purely functional disturbance in the corn field into an organic blight.

So, also, we have the functional psychosis of hysteria and the organic degeneration, called the general paralysis of the insane (paresis), with the biochemic intoxication of a syphilitic taint as a hereditary or acquired pollution of the vital fluids of the victim.

A Difficult Problem

We began this definition with the words "faulty nutrition". So, if we trace this particular causative factor (with the ambitious questioner as the observer) and show the development of a condition that simulates an insanity with delusions of persecution incompatible with a 'reasonable' reason, the ambitious questioner may not only learn to appreciate the largeness of his question, but may acquire a respect for the finesse of differential diagnosis which he has heretofore regarded, perhaps, as a process of "dodging the issue" and providing a bridge for the alienists' retreat from an embarrassing situation when the tilt between medical insanity and legal insanity becomes too warm.

Another Simile

Here is a girl in the transition stage between youth and maturity which we call the pubescent period. She was born with a womb and a pair of ovaries, and they have been a part of her body all the time just as have been her unformed breasts; while they have been "in" her body they have not been "of" her body, just as an outlying section of a city has been geographically "in" but not civically "of" it.

The impulse to develop that inert, outlying district calls for the use of a portion of the city's water supply for the making of streets

and the laying of sidewalks, the building of houses, making of conduits, etc., but the demand has not been sufficient to disturb the quantity or force of the water supply throughout the city to a very great extent. However, as the development, physically, begins to manifest completion, the outlying section still must wait for a further development, socially and commercially, before it is really an integral part of the adult existence of the city and, during this period of adolescence, there is an ever increasing number of clothes to be washed and lawns to be sprayed and floors to be scrubbed and bodies to be bathed and foods to be boiled, etc., etc. Therefore, the appreciable increase in demand for water supply must reduce the quantity and the force throughout the entire city unless some attention is given to the conservation of waste and the adjustment of supply and force.

Obviously, if the ambitious questioner lives in a one-story shack, with a single cold-water faucet and I conduct a large laundry, my inconvenience from lack of proper quantity and force of water supply will be greater than his unless effective measures are taken for adjustment.

The little finger of the pubescent and adolescent girl has a single faucet, or artery, which is sufficient for its needs; but her digestive system, through which she must live and do her part of the world's work, is made up of a mouth, a gullet, a stomach, a small intestine and a large intestine (33-feet from one end to the other), a liver, a pancreas, a spleen, and two kidneys with all of their appendages. Some laundry! Its needs for blood supply are greater than those of any other system in the whole body, and its contribution to the needs of the adolescent generative system of that girl is correspondingly great; which means reduced quantity of blood and decreased efficiency by reason of decreased nutrition to the glandular structures upon which the proper digestion of food entirely depends.

Now, let us suppose that this girl has a heredity of 100-percent plus: that her infancy was marked by no serious illnesses; that her young girlhood was perfectly normal, physically, mentally, morally and socially; that she ate well and slept well and was happy and contented; that out of her food she got 70 percent nourishment and 30 percent waste, and that waste was legitimate and unavoidable. She leaves grammar school where life was one grand sweet song; where she knew and loved, and was loved by, the principal, the teachers and her associates: she enters high-school in the early part of the transition period, to meet new teachers and new associates and new "ologies", etc., with a change of life and an advanced process in the development of her personality, but utterly ignorant of the altering economics of her vegetative body upon which the development of her social and intellectual body absolutely depend.

There is no mid-point in nature. Either we go forward or we go back; the firm that stands still does not exist; it must head for success or drift into bankruptcy (which is the insanity of commerce), and the measure of that drift is the alteration between the percentage of nutrition (or profit) and waste (or loss).

Gradual Depreciation Through Ignorance of Laws of Nature

The 70 percent nourishment and 30 percent waste of that promising girl soon becomes 69 percent and 31 percent, 60-40, 50-50, 40-60, 30-70. Slowly and insidiously but surely, nutrition decreases and waste increases and, because the skin is the first-cousin of the mucous membranes of the body (derived from the same layer of the blastoderm, or human egg, formed by the male and female elements and yielding as an end-result a baby), that girl's skin shows a reflection of the inefficiency of the mucous membrane of the digestive apparatus and she has an embarrassing succession of pimples, most marked, usually, when the blood-distribution is intensively disproportionate—at period times.

When the Creator made the digestive apparatus, He provided a digestive ferment and a fluid to carry it, for the mouth; another digestive agent and a fluid for the stomach; then, just outside the stomach, in the beginning of the small intestines, He provided another digestive agent (pancreatin) and a fluid to carry it, called the bile (manufactured by the liver and stored away in a pouch for whenever needed).

Obviously, if He intended all of the digestion of the small intestines to be accomplished by the means of that digestive agent and that fluid, He would not have wasted thought in making a tube, 26-feet long from the end of the stomach to the pouch where the appendix is located. He would surely have made another large sac or pouch like the stomach and let those two fluids get busy.

Still Another Simile

Suppose we interpret that 26-foot tube in terms of a 26-mile railroad, with a station for every mile. Imagine a freight train laden

with food-stuffs coming down the line and stopping at station A, where there are two undernourished and inefficient freight handlers, named bile and pancreatin, who are "falling down on their job", so that a crate of honeydew melons, consigned to Mr. Smith, the grocer, at station A, fails to be digested off. Before we go a step further, let us see the probable result of this particular "indigestion" upon the tissues which had a reasonable right to be nourished from that point. The grocer Smith is irritable, his economics are disturbed because Mrs. Brown ordered those melons and Smith not only faces a money-loss, but he risks the displeasure of Mrs. Brown who takes through him; Mrs. Brown is irritable and faces embarrassment and probable though unexpressed criticism for not knowing what's what when her week-end guests have to be content with a fruit not in vogue or season.

Now, let us go to station B. Here there are two more freight-handlers who cuss and kick because that box of honeydew melons is always in the way and has to be moved and pushed aside so that they may digest off the food-stuffs consigned to station B. So also at C, and D, and right down the line until the train leaves station Z and rolls into the terminal freight-yard which is comparable to the girl's colon or large intestine.

In the Colon

In that terminal freight-yard, there are some cleaners-up whose business it is to clear out the cars and get them ready for another trip. There should be nothing in that train but legitimate and unavoidable waste, empty barrels, empty crates, excelsior, paper and twine. The box of melons is not only extravagant waste, but it is a claim against the company and a great temptation to those cleaners-up to neglect their duty and indulge in their pleasures—a banquet upon those undigested melons.

In that girl's colon, there are some cleaners-up which we call colon bacilli. It is their duty to keep the legitimate waste 'mushy' and on the move, so that it may be thrown out in the city's sewers; but, seeing undigested and partly digested particles flowing into the terminal, they abandon their duty and get busy with their pleasures and have a banquet.

Those germs are that girl's best friends when they are her servants; her worst enemies when they are her masters. They must eat to live, and digest what they eat to live well, and get rid of their own waste to live comfortably. The girl throws her waste into the city's sewers, but the colon bacilli throw their waste into her blood which tries, with all the power it can spare from the pressing and imperative demands of the girl's study-requirements, to neutralize and render inert those poisons lest they swamp that girl and put her out of commission. You can not have the battle of the Marne, and win it, without losing some soldiers. That girl cannot have the battle of the colon, and win it, without losing some of the red cells of the blood which becomes oxygen-poor because the actual oxygen carriers are diminished, and she becomes pale and washy.

She has pains in her legs and a tired back because the muscles are undernourished; her hands and feet are cold because the blood supplying the blanket of blood vessels in her skin and extremities is not rich and red and full of oxygen, but pale and thin and full of carbonized material from the tissues of the body which have died that she might live and, dying, have had to be burned to be eliminated.

Bad as it is to have an actual reduction in the number of oxygen-carriers, the poor girl is still further embarrassed because her heart action has become rapid (palpitation, she calls it) and her breathing shallow; not only because the muscles of her chest are undernourished, just as the muscles of her legs and back are, but because the activity of those colon bacilli, in banqueting on the undigested and partly digested food, has released gases which expand and make pressure along the line of least resistance, up against the heart and lungs, diminishing the actual space in which they may move, and downward against a soft, flabby womb. Perhaps this occurs just at the close of a period when the normal congestion is at an end, with the result that the womb is "kinked" so that, when her next period comes around, she will have cramp-like pains, differing only in degree from labor pains, until the kink is straightened out and the flow begins.

Intellect and Mind Suffer

This would seem to be ills enough and to spare for the poor girl; but, her legs and back muscles are just as good (or bad) as her blood supply and that is equally true of her brain. Her "thinkability" is impaired; she may not answer as promptly in class as her teacher thinks she should, the teacher being fully as ignorant as the child of the disordered body economy to which we have referred. That girl is blue and discouraged, her view not tinted rosy by a lens of brilliant blood. Her social condition has not changed a bit; she may be an only child, the darling of her

parents, surrounded by everything that should make life glorious, but she is blue, blue, blue; "her parents hate her, her teachers hate her", she is in the condition of mind of that little boy on the picture-post-card, cheek on hand, disconsolate and his purview of life contained in his muttered—"Nobody loves me; I'm going out in the garden and eat worms; yesterday I ate two smooth and one woolly one".

Surely, here is a change in personality, consistently continuous over an appreciable period of time and manifesting delusions for which there is no reasonable reason. Yet, it is not insanity. I have spoken of it, often, as Pubescent Americanosis, a pathological process going on in the pubescent stage of many American girls' lives; really a pseudo-psychosis of puberty.

Consider the Psychosexual Phase

A serious social menace of this too common condition is the effect which a rapid pulse and an overcarbonized blood supply have upon the psychosexual phase of the life of a boy or girl; its capacity for stimulating erectile tissue and shaping the thoughts toward indulgence of the sex-urge; the failure of that undernourished brain to quickly call up the images of the bright and beautiful and sweet and pure things of life and to swing into control the ethical sense with its esthetic and conventional reinforcements to drive to rout thoughts and practices which an alert judgment would recognize as morally vicious and economically wasteful and socially unsound.

The Remedy?

What's the use of the time spent on this Pubescent Americanosis if we can not point a remedy so that this pseudo-psychosis, purely functional in character, may not persist until the habit of thought merges it into the psychotic state and continued autointoxication converts a functional psychosis (remediable) into a possible organic degeneration, precocious in point of time?

And Now, Call the Doctor!

With the information contained in articles (such as this) in the possession of a mother or of her pubescent daughter, or both, why not call in the family doctor (there are a few of them left) and let him whip up a sluggish liver and impress upon the girl the necessity for examining her conscience every night and, if her bowels have not been right, to use some simple remedy which he can suggest. Let him point out the real reason why that girl should "throw out a herring (of sacrifice) to catch a whale" (of physical security) and, by moderation in mawkish sweets, leave room for appetite for health-giving common ordinary food and a visible supply of raw material from which the blood-making machinery may maintain a reserve; let him point out the economy of proper work and rest and play; his authoritative pronouncements will be given weight even by a girl of tender years if he will point out the sureness with which that "kinked" womb condition will rob her of pleasures when a social engagement and a menstrual period, coming together, may spell disappointment of mind and suffering of body.

Sex Hygiene Taught by Physicians

Better still, let us Doctors dedicate ourselves to the education of these young girls of ours; no one better than we can discuss so intimate a matter with less embarrassment; then let us make the mothers our lieutenants, acting under orders, but with knowledge. Do not let us leave a matter, so tremendously important to the girls and their mothers and to the Nation, in the hands of the lay expediency-artists who know the psychology of sex, and stress it rather than insisting upon the physiology, anatomy and chemistry of digestion through which the girl acquires the power of living and upon the mechanics of them all, which we have tried to portray and through which the girl may acquire the power to live-well.

405 Union Street.

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Limitations of Electronic Methods in Their Present Form*

By A. I. ARNESON, Austin, Minnesota

THE title of this article will undoubtedly strike consternation to the hearts of many readers. A year and a half ago, warnings were being voiced by experienced men that we must not place too implicit confidence in our present form of electronic apparatus and technic and by all means stop overestimating the value of electronic instruments designed for purposes of treatment. This warning was timely and vital; yet, it seems that it is being forgotten and disregarded on every hand. The purpose of this paper is, to attempt if possible to awaken the drowsing ones, to wipe away the veils of forgetfulness and dispel the cloying atmosphere of selfsatisfaction and complacency that is paralyzing progress in this field.

This is a period of turmoil in the medical world. A period of unrest; a tempest is brewing. What will the harvest be? This storm has several vortices, or storm centers, but the outstanding center is the application of electronic concepts themselves or whether it is actually directed against the methods of whether the opposition is really to the electronic concepts themselves or whether it is actually directed against the methods of application and the promulgator thereof. From a study of available literature, the writer is convinced that the opposition is aimed solely and entirely against the latter. Little straws point the way the wind is blowing. Little by little, the "authorities" are admitting that they must go beyond the cell, the atom and the molecule for the solution of these problems and, going beyond these, means going to the electron. There can be no ground for denying the applicability. The question does come in the manner of applying the electronic concepts.

No one who makes a real investigation into the electronic field can fail to realize that here we have the key to the solution of medical problems, just as it has proven the key to problems of other sciences, as physics, chemistry, astronomy among others.

The writer wishes in this article to point out what to him appears as discrepancies and inconsistencies in the methods of applying electronic concepts to the field of medicine as we know it today. The writer deplores the action of *Hearst's International* and Ford's *Dearborn Independent* in presenting the subject to the public in the way they have done. Their action has done no public good, rather serving only to becloud the issue and leave the minds of the readers in worse confusion than before. Since it is so evident that the electronic application points the way, then why not lend the effort, energy, money, etc., which, spent to a better purpose, would be constructive instead of destructive? Why not bend every effort to clarify the situation, to real research? The way is open, it is pointed out to us. Can we not get help along the way from these powerful agencies instead of kicks and buffets, hindrances and injuries? Won't they grant that we really are sincere in our search for something better than the present chaos in the medical world?

Constant Critical Investigation Is Essential

It appears to the writer that the users of the present form of electronic apparatus for diagnosis and treatment have, in a great many instances, ceased to inspect themselves and their methods as they used to do before they got into this work. Then, they were constantly trying and testing, clipping and culling the various methods offered. Now, they seem to be satisfied that they have the last word in diagnosis and therapy and resent intensely any inference or allusion to the fact that perhaps their methods are not quite as perfect as they think; setting themselves up to be gazed at as martyrs to a cause. Those who are not quite satisfied with present methods appear nevertheless to be satisfied to have Dr. Abrams do all the research work for them and accept every newborn notion put forth by Dr. Abrams as gospel truth, which needs no further confirmation.

This attitude certainly is fostered to a great extent by Dr. Abrams himself by the creation, intentional or otherwise, of the impression that none but he is qualified to make investigations, to make improvements in apparatus and technic, and that every one who tries to perfect instruments to accomplish as good or better results than his are all impostors, imitators without worth, charlatans, etc., who had

*A sequel to "Electronic Medicine," published in this journal, November, 1922, issue.

best be avoided and who must not be granted a hearing or an investigation of their claims by any of Dr. Abrams' "disciples" on pain of having their apparatus taken away from them, etc., etc., etc., ad lib.

The points brought forward in this article are such as appear to be the most pertinent at the present time. Should future research prove that the deductions herein are wrong, we shall be the first to admit it.

The Electronic Concept

We will briefly state the main points involved in the electronic concept, so that our memories may be refreshed and the points brought out more clearly. These concepts hold that all matter, including the matter making up the human body, is ultimately composed of electrons, which are the smallest possible division of matter and are electrical in nature. Electrons making up different substances are considered as being identical in all substances as regards size and other static qualities but differ from each other in the rate of vibration or rotation and in their arrangement or grouping within molecules. Applying this to the human body, it means that each organ and tissue of the body is made up of electrons which are exactly like the electrons making up any other organ and, in fact, any other substance known; but that the electrons of one organ are vibrating differently and grouped differently from those comprising any other organ or tissue. Electrons vibrating at one certain rate and grouped in a certain manner are concerned in the production of matter known to us as normal liver tissue, for instance, and another speed and arrangement produces heart muscle, etc.

Carrying this into the field of disease conditions, it must necessarily follow that, if the electrons making up a normal liver tissue, through any cause are caused to assume slightly different rates of vibration and arrangement, then they can no longer maintain normal tissue characteristics, and anything abnormal is known to us as a disease condition. Likewise, it follows that the particular rate of vibration present determines the particular type of abnormal tissue present, be it carcinoma, sarcoma, tuberculosis or any other. Likewise, it is logical that disease conditions which we know as similar types affecting different organs must also differ slightly from each other in rate of vibration. In other words, carcinoma of the liver must be composed of electrons vibrating at a different rate than electrons making up normal liver and they also must be vibrating at a different rate than electrons which produce a carcinomatous uterus for instance. If both were composed of electrons vibrating at the same rate, then both would be carcinomatous liver tissue, or vice versa.

In addition to these variations, we must also consider variations in vibration of carcinoma, for instance, affecting the same organ in different persons. These must also vary slightly, as no two people can well be conceived as being exactly alike in any particular; thus making every individual a distinct entity unto himself and a separate problem to the physician rather than as one of these interchangeable parts spoken of in automobile literature.

The Diagnostic Apparatus

If the above is a correct exposition of the main points involved, then let us proceed to see how these propositions have been applied to the present equipment and technic of diagnosis and treatment. The writer feels that it is high time that electronic practitioners take stock of their present situation and realize that we hardly have scientific ground to stand upon in defending our apparatus and methods. The writer feels that our present application of these principles does not continue along logical lines and that we have no right (e. g.) to content ourselves with making the statement that electronic diagnosis in its present stage of development approaches 100 percent accuracy and that the only factors contributing toward the fractional percent of error are entirely attributable to the human equation in the examiner and subject.

Do not misunderstand this to indicate a lack of faith in the methods. Diligent application, through a period of a year and a half to a large number of patients, has brought convincing proof that there is basis for implicit confidence in the diagnostic reactions when they are clear cut and distinct. The doubtful element enters in cases where the reactions are weak, dull, sluggish or entirely absent. If the foregoing exposition of the electronic concepts is correct, it must be evident that the reason for these varying reactions must lie, at least in a great measure, in the construction of the tuning apparatus, the Reflexophone of Abrams and others of same type. These instruments vary their capacity of resistance or inductance by taps taken from the windings at various points. Naturally, this limits the application of the instrument to the actual number of points on the dial. If we get a good clear reaction in diagnosis, we may presume that everything is in perfect tune, that the point at which the tap is taken from

the winding on which our switch arm is now resting happens to be exactly the right point. Such a reaction may be interpreted as being 100 percent accurate.

Possibilities of Error

As we have shown, the same disease in different organs in the same patient, and the same disease in the same or different organs of different patients can not logically be considered as having absolutely identical rates of vibration but must be of different rates. The question naturally arises then as to the range, or latitude, of tuning possible at any one given point on the dials of our diagnostic instruments. In other words, is its construction such as to admit of a broad band of vibratory rates or is it very selective, just as in the case of Radio receiving apparatus, some of which are broad tuning and others very selective? In the case of a broad tuning range, at any given setting, we find that there is a great deal of interference from wave lengths or from rates of vibration nearly similar to the particular one we want to get, and that clear reception is impossible. We can not know whether we are getting the vibratory rate we desire to tune in or whether we get some other disease wave which is nearly the same. If the apparatus is very selective, we can expect that only one very narrow band of wave lengths, or vibratory rates, is permitted to pass and, thus, we can expect that we are missing a great many reactions of disease whose vibratory rates would respond only to a setting somewhere between the contact points on the instrument. If the doubtful reactions mentioned are to be considered as true reactions and dependable in every way, they must be vibratory rates that just come within the limits of response of the apparatus at the given setting. How many reactions are we missing whose vibratory rates fall just outside this limit and somewhere between contact points?

The writer believes that something of the sort occurs when the 25ths points on the dials are employed to measure potentials of disease. Those familiar with the work will know that, at certain settings of this dial, the reactions seem to come through much clearer than at other settings. This question is naturally very intimately related to the question as to how the tuning apparatus really acts, whether by resistance properties or by induction. It is true that the Reflexophone is said to act by resistance only and not by induction properties, but it must be admitted that there are too many inconsistencies in that viewpoint for it to be accepted without a great deal of experimental proof being *demonstrated*. If it acts at all by induction, we have another factor of error in that the induction can hardly be alike in any two instruments because of the way the wires are placed.

Contradictory Diagnosis

One of the first and most disconcerting *facts* that an investigator into electronic diagnosis comes in contact with is in the different diagnoses made by different examiners from blood specimens taken from the same patient. This fact exists and must not be evaded. Several explanations are offered: That different examiners do not possess the same skill; that they do not use the same technic; that their auditory powers differ; that they use different hook-ups of the diagnostic instruments; that some use one, others two and still others three separate instruments in making the diagnosis. (We refer here to the number of reflexophones used.) If we accept the statement that each acts as a separate unit of resistance, it would appear that three instruments must be used in order to eliminate as many chances of error as possible. Then all examiners must use three reflexophones and, yet, if any of the other factors mentioned are present, we must still fail to get identical diagnoses from different examiners. If we now add another factor that is very real indeed, that of varying values of same contact points in different reflexophones, the confusion increases. It is a well known fact that a large number of reflexophones put on the market a year ago, when the sudden increase in demand occurred, are very far from satisfactory. The writer knows of reflexophones which, when set at 55 for acquired lues, really had a value of 57 ohms, the rate for congenital lues, and at 58 had value of 60 which corresponded to streptococcus infection instead of sarcoma as indicated by the dial.

It is recognized that the question of accuracy is one of relative values entirely. Such statements as made by a Mr. Morgan, in Ford's *Dearborn Independent*, concerning accuracy of Reflexophones, are to be deplored. They serve but to becloud the real issue and make confusion worse. It should be explained that any question of accuracy must refer to the limit of variation which is permissible in relation to the particular use to which any given instrument is to be put. A yard stick is accurate to the seamstress or carpenter. To a watch maker or lens grinder, it would be very inaccurate indeed. Therefore, the question is not one of accuracy in comparison with

any particular standard of comparison chosen by Mr. Morgan, but as to whether or not it is within such limits as to make it suitable for the work in hand.

Unjustified Claims of 100-Percent Accuracy

The foregoing is submitted for the study and consideration of all physicians now practicing electronic diagnosis. If the contentions outlined hold true, how then can we justify the statement so often made, that electronic diagnosis in its present stage of development approaches 100 percent accuracy; that only human elements of liability to error in technic and interpretation keep the results below 100 percent? If such be the state of affairs at the present time, need we lose all hope and confidence? Far from it. The present magnitude of the work has been built on real merit. Diagnostic reactions absolutely do occur in every case and, apparently, the large majority of cases come within the scope of our present apparatus. When reactions are clear cut and examiners employ the same technic and the apparatus is standardized to within reasonable limits of accuracy, the results will score still better. The approach to 100 percent accuracy in diagnosis must, however, await first the development of instruments for tuning vibrations in or out, which are of continuous range and not go by steps from one contact button to another, as at present. This holds equally true whether the modus operandi be by virtue of resistance or by induction.

It is the belief of the writer that resistance of a piece of wire can not be used satisfactorily to measure the potential af disease energy. Without going into details of how this conclusion is reached, we would add that, so far, the only practical method now appears to be the use of a variable air gap.

The Essential Truth Maintained

As the proof of the pudding is in the eating thereof, so the proof of any system of diagnosis is, the revelations afforded by the results of treatment applied in accordance with that diagnosis; the revelations of surgery, of autopsy, etc. These revelations have corroborated electronic diagnosis too often, scored too high a percentage of correct diagnoses from blood alone, to admit of any doubt as to its having great essential worth, far better than any other single method known today; but the assistance of all other valuable methods is needed and the method must be greatly improved before we can be justified in making assertions pertaining to 100 percent efficiency.

What other method can tell us even a small part as much about essential diagnosis as this method can even now? Can any other method tell us that a heart condition "diagnosed" as myocardial weakness is due to streptococcus, luetic or other definite cause? This is the true type of diagnosis in which we are interested. A diagnosis of mitral regurgitation is not what we are interested in primarily. We want to know *why* the patient has this condition. We are interested most of all in diagnosing the presence of abnormal vibrations of electrons in tissues and organs *before* mechanical change of structure or destruction of vital structure has occurred. There lies the real field of diagnosis. Electronic diagnosis in its present stage has pointed out the way by which we may approach that goal of early diagnosis. Given a truly early diagnosis, the treatment will be a much simpler problem. The problem will then practically resolve itself into one of prevention.

The Treatment Apparatus

Taking up the present forms of treatment apparatus, by which electronic vibrations are supposed to be corrected to normal rates or abnormal rates destroyed entirely and nature be made to resume normal vibratory rates, we find the same type of errors present in their application as in the diagnostic apparatus. The Oscilloclast, for instance, has 11 contact buttons per dial. If we grant, for the sake of argument, that this apparatus does induce charges of electronic energy in the body of the patient, to which the electrodes are applied which are of similar rate of vibration as that of the disease conditions being treated, we still fall far short of carrying that very principle to its logical conclusion. Any apparatus depending on tuning by steps (as is the case with these types) can only give off the rates of vibration corresponding to those contact points. All the rates intermediate to these points are unavailable. How can it be logical that point 3 can give off exactly the right rate for both, acquired and congenital lues when they have different rates, as shown by the diagnostic apparatus? Likewise, how can this same rate at point 3 be exactly right for sarcoma, for instance? All who are doing this work know that they have cases that respond wonderfully, that astound patient, friends and physician alike. Then they also have large numbers of cases that apparently, because of physical and electronic diagnosis, should respond just as quickly, but that fail to respond at all and many that respond very slowly. Why is this so? The writer ventures to say

that it is because the correct rates were available in those that respond so wonderfully and that in the remainder the proper rate is not available at the contact points available on the dials of the machines. Could we get at some intermediate portion of the windings, we would be more likely to score successes in those whom we now fail to help. Why is it that Dr. Abrams is so frantically scrambling around for the proper rate for streptococcus and Neisserian infections? Simply because the rate is not available at any of the 11 points on the dials.

Certainly, if we are to apply electronic concepts all along the line, it is impossible to conceive of any apparatus tuning by steps of contact points that can ever score a very big percentage of success in comparison to what might be accomplished if all portions of a tuning member were available. Nor can arbitrary numbers be established for each disease condition. Each individual case will have to be individualized and treated at the rates which are found to neutralize all disease reactions in that particular patient, so that one patient with congenital lues may be found to have all reactions neutralized at, say, 29 on an arbitrary scale and another congenital lues case, which seemed to be just like the other, would require rates at 34 to effect neutralization.

Here, again, be it understood that the writer is absolutely convinced of the efficiency of the Oscilloclast and similar instruments when the rates available are exactly right. It must be evident that, when a case is encountered which does not respond satisfactorily at the arbitrary setting, that case must be tested out in connection with the Oscilloclast to determine if that arbitrary rate is the nearest correct rate available or if some other setting more nearly covers the case. Too many patients with otherwise hopeless prognosis have been returned to health through the means of these instruments than that they could be considered accidents or coincidents. The instruments fill a field in therapy that no other means has done and they are exceedingly valuable for those cases that they fit.

The writer wishes only to point out the fallacy of the idea that any instrument of the Oscilloclast type can ever afford the solution of the cure of diseases when we consider the infinite variety and combinations possible in the human body. Where it does fit, it does what no other means can do. Lucky the patient whose condition it covers. He will likely soon be well.

Electronic View Applied to Radioactive Drugs

Applying electronic principles of vibration interference to the use of radioactive drugs, we find the same lack of following the principles out to their logical end. We find, for instance, that gamboge is recommended as being the best remedy for tuberculosis. Later on, we are told that vanadium is far better than gamboge. What is the answer? Simply a failure to carry out the individualization of patients. Just as button No. 5 on the Oscilloclast can not supply vibrations exactly right for every individual suffering from tuberculosis of various organs, not even the same organ in different patients, so vanadium can not supply vibrations exactly right or best in all cases. Drugs must be tested out against each individual case, and then it will be found that in one case gamboge is best, in another vanadium, in another creosote, perhaps, where streptococcus is associated. For best results in any type of case, your remedy must be able to annul all the disease reflexes. If more than one remedy does this, then take the one which annuls it through the greatest air gap. This will be the nearest correct, just as we find that, when our radio apparatus is in exact tune with some station thousands of miles away, we will get that station and get no effect whatever from a station a mile away, the potential of energy reaching our receiving set being millions of times greater yet being incapable of affecting any response in the receiver because out of tune.

Take the various remedies for lues. We may find that part or most of the reactions in a given case are annulled by thuja, quinine, calomel, arsphenamine, etc., but that mercuric iod. flavum is the only remedy that annuls all the disease reactions. Naturally, this is the remedy to give. If we go farther and try the various forms of this drug, we may find that the crude drug annuls the reflexes through an air gap of a couple of inches and that the 100,000 X attenuation thereof annuls them at 40 inches. Naturally, we would give a dose of the latter. On testing the reflexes in a minute or two, we might find all disease reflexes absent. We might find that these would not return again for five or six days. Then why repeat the dose oftener? If remedies will annul disease reactions for a week, and the Oscilloclast for only 18 to 24 hours, then why use the Oscilloclast and similar apparatus at all? Also, we may find that, as the case progresses, the sum total of vibrations in that

case changes so that the original remedy no longer annuls all reactions or that it annuls them over a lesser air gap than some other remedy of a different combination of wave lengths. Then we must give this other remedy which now fits the totality of the case better than the first remedy.

Value of Autotherapy

When one considers the great variety of combinations possible in diseases of human beings, one is constrained to feel that our line of most likely success lies in the utilization of the patient's own remedy; the preparation of autohemic serums or autogenous serums or vaccines prepared according to the basic principles outlined by Dr. Chas. H. Duncan. It would appear that only in this manner can we expect to obtain a source of vibratory rates that exactly fit every case. If we can diagnose disease conditions by the vibratory rates found in the patients' blood and we claim to effect a cure by means of *similar* vibrations setting up destructive or interfering vibrations, then why not use these very same vibrations, by which we diagnose a case, to cure it also? They must be exactly right in every case. The problem would appear to be one of perfecting some means of stepping up or increasing the power of these vibrations of the patients' blood or secretions or excretions, so that they would have the power to produce these desired effects.

Orificial Therapy

Lastly, we have to consider the effect on vibratory rates of socalled mechanical conditions. The effects there are very decided. The how of their action must be looked into and determined positively, if possible. This refers particularly to the field of orificial therapy. Why is it that we find cases with 30 and 40 ohms energy of congenital lues fall to zero almost immediately after a circumcision, a divulsion of the sphincter ani or the removal of anal papillæ? Why is it that we find in cases of epilepsy that the electronic reactions show lues and perhaps colisepsis and streptococcus infection in the epileptic area, and the treatment with the Oscilloclast takes many months, if successful at all in eradicating the trouble, when on the other hand, a great many such cases are cured practically instantly by the application of proper orificial therapy? Not only does this occur in the conditions named, but it may be observed in many others.

Do Not Limit Your Method Unduly

Naturally, an article like this applies to the men on the firing line, the physicians fighting the battle against disease. It is hoped that this article may point out the necessity of knowing and using other methods than the Oscilloclast and similar instruments, and that one must not persist in the use of the Oscilloclast when it is apparent that the progress is not satisfactory. First of all, see if some other setting on the instrument will annul the reflexes better than the usual one for the condition in hand. Then do not forget these other means of securing vibrations. Remember the potentized drugs, the blood and exudate preparations, the promotion of unimpaired functioning of the sympathetic nervous system. What matters it from whence we get the proper vibrations? If drugs give us the nearest correct vibrations in a given case, then it is necessary to use those drugs, rather than the Oscilloclast, for instance, in order to play fair with our patients. What right then has any man to take up with one certain line of treatment and insist on treating every case that comes along with that one method? If we have the source of correct vibrations at hand and still fail to obtain results, we must search for the reason for failure. Often we will find it in orificial defects causing malfunction of the sympathetic nervous system whose mission it is to correlate and harmonize the various vibrations of the various portions of the body into one harmonious state called health.

The electronic conception of health and disease is unassailable. Surely, we may labor unceasingly in the endeavor to perfect our present methods of socalled electronic diagnosis and treatment and, what is just as important, learn to properly correlate and assemble all valuable means into one worth-while whole, whereby we can really secure for the patient all possible benefit and again enjoy the confidence and respect of the people at large.

Unity in Medicine

In concluding, the writer wishes to again voice his pet hope; that the time may not be too far distant when medicine will become a true science and when there will no longer be the sorry spectacle of the various methods of practice fighting each other, refusing to admit that there could possibly be anything of value in any but their own particular single-track methods, when "allopaths" and homeopaths, osteopaths and chiropractors, electrotherapists, electronists, naturopaths, etc., will no longer exist as separate entities but that in their stead will be a Universal Medicine consisting of all that is good in all these methods and eliminating most of the useless bluff, front and

camouflage. Then and then only shall we merit the respect and confidence of the public, which medical men do not now enjoy and do not merit.

Why should a poor sufferer have to go the rounds from one practitioner to another, each telling him that his particular method of handling diseases is the only correct one, finally ending up in complete discouragement and failure and a distrust and disgust for all things pertaining to the healing art? Of course, the incurables will always be with us, but their number will be decreased through the judicious use of combinations of the various methods which in the present stage of affairs are only obtained by the patient shutting his eyes and picking the first kind he gets his fingers on, and so on through the gamut. Why must this condition continue to exist? Is it solely that the Pooh-Bahs are afraid that their present position would not bear investigation and they would have to work among the sick again instead of playing Kaisers to the various systems of practice? There is much that is good wheat among each of the various methods of practice, but there is entirely too much chaff and weed seed among the wheat. For the good of suffering mankind, can't we put them through the cleaning mill? It is high time that it were done.

Through the Latin Americas

By E. S. GOODHUE, Roosevelt, Hawaii

DESPITE entreaties and protestations over our short stay at Quirigua, where we visited the ancient Mayan ruins, we left our Guatemala friends for the Pacific port of San José.

The trip over the railroad was extremely interesting. At Esquintla, a hot little town of the Guacalate river, we got off for a bite and a two hours' wait, which lengthened into five hours, each extension being announced half hourly by the *conductor de ferrocarril* the proclamation meeting with laughter and jokes on the part of the Guatemaltecans * who evidently have a sense of humor.

We soon got away from the higher lands, canyons, deep gulches and mountain streams, passing through forests with here and there a stop of *despacho,* where there was a cleared space with palm-thatched huts, a few banana plants and, sometimes, little gardens of fruits, corn and vegetables. The latter were offered for sale to passengers on the train. The Indian vendors seemed kindly, as are our Hawaiians, and I was told that, throughout the Indian settlements of Guatemala, a woman may pass at night unattended without fear of insult.

We had lingered for miles along the shores of the beautiful Lake Amatitlan, which is becoming a week-end resort for residents of the Capital, and came, at length, to Santa Maria, a junction for trains going west to Mexico, through Quezaltenango, the town of that name being situated high up in a region almost cold.

At San José, a tropical little port at which San Francisco steamers call on their way to Panama, we took the "San Juan," embarked in a box seating four, and were swung in mid-air from the wharf to a lighter. This, let me say, is an easy, safe and much better way than trying to get down a ladder or gangplank into a bobbing boat, as we have to do at most of the Hawaiian landings. You get in on the wharf level, are seated in a car with cushioned seat and carpeted floor, lifted carefully, and landed in the shore boat, or lighter, without any effort or risk on your part.

The next day, we landed at Acajutla, Salvador, in the same fashion. We met very cordial passengers on the "San Juan," going to all points in Central, South America, Panama and the West Indies: Mr. Peter C. Wilson, a genial, helpful Scotchman, bound for Costa Rica, where his native wife and children live; Dr. E—, the ship physician, a cheerful optimist whose presence alone would be therapeutic; Mrs. Walter Roe, niece of the novelist, traveling to gather information about the various tribes of Indians which her husband, a missionary, had faithfully served; Mr. Mullins, a prominent railroad man from Cutuco, and others.

Acajutla we found to be a very pretty port dressed in luxuriant foliage of intense greens and reds. After customs' examination, without charges, this time, and viséing of passports by the *Commandante,* free, we took the train for San Salvador, 194 miles northeast; fare, $5.15 gold.

Another delightful ride with courteous officials and kindly passengers, through much

* Guatamaltecan, Honduzoneon, Salvadoroneon as nouns; Guatamalon, Honduron, Salvadorean, as adjectives.

Gunboat at Lagoon, Puerto Cortez, Honduras

cultivated land, immense estates of corn, coffee and sugar. The mills are always near. Beautiful streams were crossed, ranges of hill and mountain penetrated. I saw some balsam (of Peru), our familiar *kamani,* and the pretty Mexican creeper, in two colors, which covered the trees for acres and miles.

We bought papaya, alligator pear, oranges, cocoanuts, mangoes, and other fruits from the Indian women who thronged the cars, also a peculiar turnip-like fruit called *guicamas,* liked by the natives, but tasting to us like raw potato.

San Salvador

San Salvador is a beautiful city of some 80,000, lying in its bowl of a valley, with rows of hills and mountains of varying height and shades of color, about it; skies like California, air like Hawaii, and a life all its own.

The streets are bright with color, the stores large and well equipped; stocked (if at high prices) with modern goods.

A number of the buildings are exquisitely designed, and the interiors finished in native woods than which none is more beautiful in grain and susceptibility to polish.

Among notable buildings are the National Theater, the President's house, his sister's home, the Medical School, Rosales Hospital, and the cathedrals. The plazas and *plazuelas* (smaller parks) are very pretty, well lighted up by electricity, with band stands and seats for the people who fill them sitting there late into the night to listen to the good music, see the well-dressed men and women, and gossip.

While smaller than the one in Guatemala, and less Cairo-like in its glamor of life and color, the market supplies a variety of fruits and vegetables, and has some extremely substantial and artistic hand-made goods in silk and native materials.

Here are woolen blankets somewhat inferior to those in Guatemala; baskets, pretty sashes for girls, mantillas, shawls and trinkets, showing considerable taste and skill.

Everywhere we found the natives, Spanish and Indians, friendly to Americans. There is a limited foreign element which does not like us, or our possible commercial supremacy in the country. A little more care in trading methods, a better knowledge of the language and people, by Americans, will establish and maintain this supremacy. We should certainly teach the Spanish language in our schools.

The National Palace, where the Assembly meets, is a very fine building opposite the Plaza. It is said to be one of the best buildings in Central America. There are many churches or cathedrals, the oldest being of most interest. Its exterior is striking, with its expansive roof, white cupola and towers; but the interior, while commodious, is tawdry in ornamentation. In the tropical moonlight, offset by tall graceful palms, the building is

President's Palace Near Bridge Tegucigalpa

very beautiful.

Outside are three statues, one to Cristobal Colon, another to the first Catholic bishop of Salvador, the third, a cheap wooden monument painted a dirty red, to "the memory of Jesus Christ," and erected in 1821.

The plazas are most attractive, some of them as gardens, others having only grass and trees placed without set arrangement.

Today the army, in blueish-grey uniforms, marched by our hotel to the sound of drums At the various consulates, President's house, National Theater and markets are soldiers with guns, Salvadorancans, barefoot and lackadaisical. Every house has iron bars before its windows, doors being closed by ponderous timbers.

All the flowers of the tropics are to be found here in profusion. Roses are particularly in evidence and indicate that the Japanese beetle (as well as the Japanese himself) has not arrived. Men, women and children promenade up and down the well-kept sidewalks after the lights appear, the better classes in most fastidious dress. I have seen many priests in their gowns.

In Mexico and Guatemala, as at home, they are not allowed to appear gowned in public. Recently, Mexico has expelled her priests and nuns, and a party of the latter came with us to El Salvador on the boat.

At present, in Salvador, the clerical party is in power, though many "liberals" are clamoring for a participation in governmental administration. There was a political meeting in favor of the new presidential candidates at the plaza last night.

The President of Salvador, Sr. Don Jorge Meléndez, was inaugurated March 1, 1919. He and the vice-president, Sr. Don Alfonso Quiñonez Molina, were elected for four years and have a cabinet of four secretaries, or ministers: Foreign Affairs, Public Instruction and Justice, War and Marine, Interior and Agriculture, and Finance, Credit and Charities. I have been asked to confer with the Minister of Public Instruction, who is regarded as an advanced educationist.

While we have met a number of Americans throughout Central America, residents and others, especially in the large cities, there are, I think, more Germans than other foreigners in El Salvador. Many of them are in business on the coffee *fincas,* and scattered in different towns. I went down street yesterday to buy some films for our Eastman kodak. They tried to sell me a German film, saying that it was better than our own American article! We have something to do yet in making the value of our goods known here.

Señor Ribas, the editor of "Renacimiento," a creditable magazine published here, called to see me today. He is Spanish, speaks per-

fect English, and has most liberal views regarding our relations with the Latin Republics. He deplored the circulation of such papers as "The Nation," Hearst's publications and other similar "stuff" in Central America. He said his people were apt to be superficial in their judgments of America and accepted what these journals said as representative of our best opinion. In a recent visit to the United States, Mr. Ribas called on President Harding and Vice President Coolidge. He stood for the Allies during the war and is trying to educate his people up to a better understanding of America.

"It might be a good idea," said he in leaving, "for some of your Chambers of Commerce to send men here to acquaint themselves with the people and conditions of Central America."

Some of the most striking objects I have seen here are the magnificent trees which rise above their fellows in the wonderful forests. The *amate,* gnarled and massive; balsam, tall, graceful of whitish outer bark something like our elm, the socalled Balsam of Peru, grown in a small section of Salvador; the round, swollen, oddly-shaped, often immense ceiba; the *aguacate, castilla,* and mahogany.

The latter, of course, is a rich product, and several lumber camps are being developed. As for the balsam, which does not attain its full growth until its 25th year, Salvador exports some 175,000 pounds of its sap a year.

Liquor is sold freely at all the licensed *cantinas,* and I see daily evidences of intoxication. Owing to this, I am told that it is not safe to travel at night in the outlying districts.

I am sorry to say that some of the foreign residents, especially young men who are here on business, are not setting a good example in their use (and abuse) of intoxicants. They are fine young fellows, but they are injuriously influenced by the drinking customs of the country and, as is well known, the tropics are no fit place for drinking men, if any place is.

For the sake of its large Indian population alone(a kindly, peaceable lot) these republics should do away with the manufacture and sale of intoxicating beverages.

And, despite my friend, Clemens-Dooley, I shall relieve my conscience by expressing my opinion on the subject to the President, whom I expect to meet today.

San Salvador, Guatemala and Tegucigalpa.

Church of the Rosary, San Salvador

Surgical Seminar

Conducted by GUSTAVUS M. BLECH.

Solution of Surgical Problem Entitled "A Study in Blood-Counting"

Recapitulation of the Problem. (Published in the August issue.)

A laborer, aged 48, with no other history except that, while a resident of Texas, eight or nine years ago, he suffered from an acute attack of Texas fever, had been ill for several weeks and his condition had become worse under medical care.

The illness manifested itself by general malaise, headaches and prostration, compelling the patient to remain in bed. The condition had a sort of typhoid aspect; temperature, 104° F.; pulse, 100; respirations normal but shallow.

A "tumor" in the left upper abdomen was interpreted by the physician to mean an enlarged spleen.

Examination by you as consultant betrays a profound toxic condition. The "tumor" appears on deep palpation to be oval in shape, movable to a limited degree and apparently not connected with the intestines.

Urine shows a trace of albumin and amorphous urates, otherwise nothing special.

Blood-count shows 4,700,000 red cells, 30,000 white cells with 90 percent polymorphonuclears. Plasmodia not found. Widal test is negative.

In the "requirement" it was suggested that the clinical picture, taken together with the blood-count, should prove sufficient to enable you to arrive at a tentative diagnosis, which, while not absolutely final, should be at least in the right direction.

Discussion by General Geo. Acheson

In discussing this case, I must confess that I am ignorant of the symptoms and pathology of Texas fever, and so, a history of this condition affords me no light on the status præsens. Nor am I quite sure from your statement whether this attack of Texas fever occurred eight or nine years ago or just a few weeks preceding his present illness. This may have some bearing on the etiology.

Apart from all the symptoms described, the blood examination shows pus formation, probably acute (as the number of red cells is not far from normal) and no malaria. The question is, the cause and location of the abscess. All symptoms, except those of profound toxemia, appear to be negative, and we have only the sign, revealed by deep palpation, of a slightly movable tumor in the left hypochondrium, oval in shape, and apparently unconnected with the intestine. Is not this likely to be a distended gall bladder, a purulent cholecystitis? What about a history of attacks of biliary colic, and perhaps jaundice, in such a case?

Another possible location for the pus is a subphrenic abscess occupying the left anterior space. This would probably be due to a ruptured gastric ulcer, and here we, no doubt, would have some history of pain and gastric distress.

The local practitioner, who treated the patient for several weeks, presumably for malaria, and saw him gradually becoming worse, does not tell us much about his symptoms during that period. So, about the only really definite diagnosis I can make on the data supplied is the existence of pus somewhere in the upper abdomen; examination with the fluoroscope would probably reveal the exact site.

Apropos of the question of blood examination, I don't think that we general practitioners make as much use as we should of this valuable method of diagnosis. A blood-count should possibly be as much a matter of routine as an examination of the urine; and it is not difficult or tedious to use a hemacytometer. Most medical men, I presume, have a fairly good microscope, and the additional apparatus required is a Thoma-Zeiss Pipette and Counting Chamber, or a Gower's Hemacytometer. Many a doubtful diagnosis would be cleared up, and a more reliable prognosis made, if a routine blood-count were carried out in our practice.

Discussion by Dr. Oliver H. Griffith

A casual consideration of the case suggests very much the possibility of an abscess of the spleen.

It it very doubtful to me that there is any

relation of the history of Texas fever to the present trouble. I understand Texas fever to be a bovine disease, and I have no knowledge that it is communicable to man. The history does not show anything about trauma to the left hypochondrium, but we must always bear in mind the possibility of an infected embolus being carried to and lodged in the spleen.

I am inclined to the belief that a lesion of the left kidney can be ruled out, because there is nothing in the urinary findings to justify such a diagnosis.

The blood count is sufficiently clear as regards the enlarged spleen to rule out with finality typhoid fever and malaria.

Discussion by Dr. S. C. Hamner,

The blood picture taken in connection with the clinical phenomena to me has but one meaning—pus.

In spite of the fact that nothing is said about tenderness in the region of the left kidney and that the description of the tumor felt is very vague and, furthermore, in spite of the absence of a report of the findings of urinary analysis repeatedly made over a period of several days, I venture to submit this diagnosis:

This patient began to suffer with a mild pyelitis, complicated by blocking of the left ureter, resulting in a pyonephrosis. The blocking of the ureter explains why no pus was seen in the sole specimen of urine examined.

A diagnosis of perinephritic abscess suggests itself, but would presuppose further data or certain definite findings.

The patient is desperately ill and needs surgical attention.

Editorial Comment and Solution

As I have said when I published the problem that, though the case in question was a rather important one, (since a correct diagnosis leads to a cure and an incorrect one to failure or worse), it is by no means a difficult one.

I am also very glad to announce that the number of participants has increased. I should have gladly published a few more discussions, if the gentlemen had gone to the trouble of giving a reason for their opinions, right or wrong. Bare statements are not discussions and cannot be accepted by me, even though they give the correct diagnosis. I have made this statement before, but it seems that our readers pay no attention to these comments. One reader asked me why I do not publish a list of the readers who send in correct answers. Well, this is a Seminar and not a puzzle department. In today's work, a medical man of distinction has not guessed at the true condition, yet I am happy and proud to publish his discussion because what he has to say is weighty.

As regards the case itself, we delve into our man's past and learn that, eight or nine years ago, while a resident of Texas, he had what, we are told, was Texas fever.

I should have had these two words printed in quotation marks, and I did not do it for a purpose. I knew next to nothing of Texas fever as it is understood in the scientific world. All I did know at the time I was called in consultation was, that Texas fever was a sort of parasitic trouble (Arachnida) producing nervous phenomena due to a toxicosis of some sort. I questioned the man about his fever, and he said that he has had chills and fever. From this I concluded that he had a plain case of malaria. I did not mention this in the problem, partly because I had no definite data I felt safe to present as facts, partly because, whatever the patient had, it was irrelevant with reference to the present trouble.

As the heading of the problem indicated, I meant it to be a study in the interpretation of blood-counts. No one who has followed my writings will charge me with having sought to induce any one to make a diagnosis from the blood findings alone. But, in this as in similar cases, the blood-count is of tremendous diagnostic importance, and I am heartily in accord with General Acheson, when he pleads for a more frequent resort to the counting chamber and microscope. As a surgeon, I know that a blood count may not only clear up a diagnosis but, under certain conditions, will indicate the proper time to resort to surgical intervention.

Now, let us return to the consultation room. A general practitioner, whose name does not matter, who has had the patient under his professional care for some time past, without producing any desired result, is facing Judges Acheson, Griffith, Hamner and Blech.

The witness, feeling that his work is to come under the sharp scrutiny of the judges, tells you only that his charge had malaise, headache and prostration. He does not tell you more, for two human reasons; either he does not know more, which is probably the most likely thing, or else he feels that, since we have been called in as experts, the burden of proof should fall on our shoulders. Whatever the reason, we can get no help from the

witness and it is up to us now to get at the facts.

We see a toxic patient, coated tongue, foul breath, parched lips, sordes, etc., tending to present a picture as classic as if prepared for a medical-student quiz. Thermometer and watch show a ratio indicating a low form of sepsis.

What can it be? Do not be too sure that we have a surgical problem, simply because this is a surgical seminar. First, even a "dyed-in-the-wool surgeon" would consider internal diseases before attempting to make a diagnosis.

(Permit me to interrupt the session long enough to warn all our readers that you may get a number of problems which, ostensibly surgical in character, may have no surgical aspect whatever. Forewarned means being forearmed!)

What comes to our mind? Malaria, Typhoid Fever, Miliary Tuberculosis.

The man may have had malaria some years ago, for malaria is very prevalent in Texas. Even if the blood does not show the plasmodium, I for one would not definitely rule out malaria; for one reason only, and that is, that it is as difficult to find a plasmodium in late malaria as it is to find the proverbial needle in the haystack. But, if this patient had any manifestation of malaria, his blood count would present quite a different picture. A high polynuclear leucocytosis means that there is no malaria here. I do not care much whether the patient has or has not had chills, for the chills are not monopolized by malaria. To me, the blood-count is all-sufficient

Now, this same blood count justifies me in ruling out typhoid fever, and I do not have to wait for the pathologist's report that the Widal reaction is negative.

Has this man an acute miliary tuberculosis? If he had any evidence of that class of trouble, we should have presented some evidence, because it is of too great importance to be overlooked, and if there is any doubt left in your mind—well, here is friend blood-count again, shaking his head to express an emphatic NO.

So far, all four judges are agreed, and we take off our robes as internists and don the vestments of surgeons to find the site of the culprit for our judicial attack.

Dr. Hamner, opening the session, says: "The blood-picture taken in connection with the clinical phenomena to me has but one meaning—Pus!" And he not only hits the nail on the head, but again all judges are in full accord. There is no dissenting voice or vote. And now we come to the most interesting part, because we have reached the end of the main road. However, as there are several radiations, one hesitates, not knowing which particular road will lead to the goal.

Let us see what we must bear in mind.

General Acheson suggests a purulent cholecystitis.

Dr. Griffith suggests an abscess of the spleen.

Dr. Hamner suggests pyonephrosis with something like a mental reservation of perinephritic abscess.

Dr. Blech, having had the advantage of following up the case by repeated examinations and operation, which absolutely confirmed the diagnosis, begs leave to be excused from giving an opinion, at least until the various ideas have been discussed.

Let us first see what the physical examination at the time of consultation reveals. "On deep palpation in the left hypochondriac region is a tumor, oval in shape, apparently not connected with the intestine and, while ill-defined, it is movable to a limited degree".

Far be it from me to exclaim: "You have your diagnosis right there," for, no one better than I knows the pitfalls of diagnosing abdominal tumors correctly before operation. However, here we must first ask ourselves whether what we feel is actually a tumor or merely an enlarged organ. It certainly is not an enlarged spleen—the description does not fit. Recently, I saw a case in which the family physician diagnosed malignancy when we had a case of splenic leukemia, but, after all, the term malignancy was not misapplied. Only, what I could not understand was, that the enlarged spleen was not recognized, since every young intern promptly recognized the massive tumor to be an enlarged spleen. For an enlarged and infected gall-bladder, the "tumor" is a little too far away from the border of the liver and, besides, the whole history and trouble does not jibe with the diagnosis of purulent cholecystitis. Clinically, I admit, it is very difficult to separate this condition from cholelithiasis, and, while large-sized monographs could be written on the variations of the symptomatology of cholelithiasis, it is at least reasonable to assume that we would not have such a low form of toxemia, that the patient's previous history would have some relation to biliary colics, that the patient would have suffered much or little from painful attacks, that he probably would have vomited, had chills, etc.

An abscess of the spleen is so rare, without a history of previous infectious disease in which the spleen participates by becoming swollen, without being secondary to some suppurative process in the immediate vicinity (e. g., subphrenic abscess) or when not due to trauma, that in a practice of over thirty years I have seen but one case, and then my skill as a diagnostician received a rude jolt when, on laparotomy, I found out that my original conception of the abscess was all wrong in that I encountered an echinococcus cyst which had suppurated.

No, from the appearance of the tumor and its mobility, there was only one thing to think about—the left kidney; and I immediately told the family physician that there is where the trouble was; and, of course, we secured a specimen of urine. When that specimen showed only a trace of albumin, the family physician expressed the idea that, if there were trouble in the left kidney the urine should show pus and a large percentage of albumin, to which I replied that he was perfectly right except in so far as the kidney may not function at all or else the ureter may be blocked, which shows that Dr. Hamner and I are in full accord.

A perinephritic abscess could be ruled out at once. There was too much mobility of the "tumor" for that.

On the other hand, a suppurating cyst of either the spleen or the left lobe of the liver might produce phenomena so similar to the present condition that, aside of their rarity, an exact diagnosis between either of them and pyonephrosis (left) was simply out of the question.

Here our problem ends. We can readily see that the opinions advanced by Drs. Acheson and Griffith are plausible, rational and absolutely proper. Their exclusion would, of course, have followed repeated cystoscopic and urinary functional tests which, in a day or two, would have established the diagnosis of pyonephrosis. With this finality we are not concerned, since the object of the problem was, to interpret the blood-count, with a view of selecting the best road of diagnostic approach.

In this we have not erred. General Acheson is an old dear friend of ours, but as to you Drs. Griffith and Hamner, I am proud to count you among my successful contributors and you have a standing invitation to join the Seminar family as constant collaborators.

A New Problem

In lieu of a surgical problem I present the following interesting letter from a colleague in old Mexico, which has sufficiently interesting material to merit full discussion. I shall comment on the treatment only, for the present.

Dear Doctor Blech:

Will you permit a poor devil, way down in old Mexico, to present a case report? Name, Ramon Cruz Cabrera, age 37. Diagnosis: Bitten by some poisonous insect about the middle of right shoulder, December 28, 1922, and came to my office for treatment on December 31, 1922. Examination showed some edema of posterior surface of the right shoulder, and a spot about the size of an American silver dollar, not dark but black. Near the center of this black spot, was a small pustule, which contained a yellowish serum.

Hot antiphlogistine poultices were ordered January 1.

Microscopical examination of the pus showed streptococci in abundance.

Van Cott's combined vaccines was ordered, but, due to the fact that we had to get our supply from Mexico City, it was January 5 before the first dose was given. In the meantime, I changed from antiphlogistine to hot fomentations of 2-percent chlorazene. Patient showed a rise of one degree from the first visit to my office, December 31, and a saline clean-out was one of the first things ordered; this was repeated all through the course, as needed.

The patient showed no improvement and, January 8, I incised freely, evacuated about 1 pint of pus, and continued 2-percent chlorazene dressing. January 5, first dose of Van Cott's vaccine was administered (1 Cc.) and repeated each day until eight doses were given. Within 12 hours after the first incision, wound diphtheria developed. January 12, a second incision made, about 4 inches below the first incision, and more pus was evacuated. Thoroughly cleaned the wound; chlorazene solution was continued. Within eight hours, the edges of the wound were covered with membranes. January 10, strychnine sulphate, 1/60 grain t. i. d., was given and continued throughout. January 18, third incision. More pus, seems to be following muscle sheath down. January 23, patient showed much weakness from pus absorption and 800 Cc. of physiologic saline solution was given. At 10 p. m., same date, 500 Cc. of physiologic saline was injected. Strychnine, sparteine and caffeine hypodermics were given every three hours.

Patient had eggnog, milk and chicken soup —all he would take, through his illness. Drs. Brigman, Juan, Graham, Cassosus and Overton, all saw this patient with me during the first fifteen days of illness. January 23, Dr. Castillo was called. He denied the existence of wound diphtheria, condemned the use of chlorazene, and suggested that iodoform be used in place of the chlorazene.

The patient died 5:30 p.m., January 23.

Now, Doctor, what I want is your opinion of the handling of this case. If I am in the wrong, I believe that you will tell me so. I have not tried to write anything for publication, only copied my notes. If you wish to work this over and use it in CLINICAL MEDICINE, you are at liberty to do so.

I. P. ISRAEL.

Colima, Mexico.

Reply

Dear Doctor: As you see from the introductory note, I am putting up your case to the bar of public opinion, by asking our many thousands of readers to discuss the problem.

Without wishing to influence or aiming at influencing any one's opinion, I will say that the diagnosis is very clear to me, and that your treatment has been, in the main, correct. In serious infections following a local injury, I make it a rule to make large, almost heroically large cross-like incisions, fairly deep, over the region of local injury and I apply mild bichloride of mercury irrigations. When the symptoms subside, chlorazene is the remedy *par excellence*. Stimulation and antistreptococcus serum, light and nutritious diet are all we can do. Dr. Castillo's opinion was erroneous and his treatment absurd.

[It is unfortunate that we are so very prone to forget the simple, old-established remedies in our constant attempt to be up-to-date in our therapy. Especially in places and regions where bacterial vaccines can not be secured, it would be well to keep in mind the mild but effective chemical antitoxics: calcium sulphide and echinacea. The excellent services rendered by the former are familiar to us through the writings of the late Dr. Robert Gray, also those of Dr. Ussher, a medical missionary in Turkey; the latter has been popularized by eclectic physicians. In all cases of toxemia, whether we employ bacterins or not, we think of calcium sulphide and fill up our patients until skin exhalations and breath smell "aloud" of "rotten eggs". The result is not imaginary; it is very real. It can easily be tested by any physician who takes the trouble to investigate. —ED. A.]

[*Concluded from page 718.*]

than were possible formerly—the play all too often becoming very serious.

The lessening frequency of marriages and the fact that marriage is generally entered at a later age now than it used to be present many more phases than could be touched upon in a single article. One of the very important ones is the economic factor and the difficulty to maintain an establishment in accordance with the standard that the young people have been trained to demand. Incidentally, there is the disinclination to assume the burdens of the family, and we have the impression that it is becoming more and more frequent for the young wives to keep on working after marriage, for the simple reason that they are not content to do with less than they were accustomed to.

We do not have any statistics on hand bearing on this particular problem. Still, some figures presented in the *Monthly Bulletin of the Department of Health, City of New York* (August) indicated that, in July, 1923, there were 5,662 marriages in New York, 10,953 births and 4,592 deaths. Reduced to a rate of 1,000 population, the figures are 11.25 for marriages, 21.77 for births and 9.12 for deaths.

As will be seen, the births are more than twice the rate of the deaths, which is a far better showing than is presented in some other countries, especially those in Europe.

It would be interesting if a fourth kind of figures were presented, namely, if not only the number of marriages were given during a certain month, but also that of divorces granted. The relation between marriages and divorces is quite an important one and must appeal to the sociologist.

HEAD LICE AND BODY LICE

With the opening of the school year, when many thousands of children spend the greater part of their waking hours in close proximity, the prevalence of lice will again increase. It is true that lice infest especially the heads of children who are not kept clean; but, even with perfect cleanliness, children may become the involuntary hosts of these little pests which then will yield only to strenuous measures.

The plight of the "lousy" child is not limited to the implied reproach of being unclean. These parasites are carriers of at least one deadly disease, known as typhus fever. Both,

[*Concluded on page 752.*]

The General Practitioner

Talks About Professional and Personal Problems
Conducted by WM. RITTENHOUSE.

The Value of Nature Study

THERE is a growing interest in the subject of Nature Study, and an increasing appreciation of its value in many ways, especially in helping the development of character in the young. Its practical value in dollars and cents to the nation at large has not been so fully recognized. To mention only two directions, in which this value is undoubted, should be enough to excite an interest in the subject: that is, in preserving our birds and other wild creatures, and in husbanding our rapidly dwindling timber supply.

The boy who has learned to appreciate and take an interest in nature is not likely in after life to destroy birds and other wild creatures wantonly and for the mere pleasure of killing. The ruthless slaughter, for instance, of birds tends to increase the multiplication of insects that are destructive to crops. Nature study teaches children to distinguish between the large number of birds, mammals, and reptiles that are harmless and feed on vermin of all kinds, and the comparatively small number that are destructive to crops or to useful creatures.

It is perhaps difficult to say in which way nature study is of most value, whether in the wealth it will add to the resources of the nation or in the good it does to the boys and girls in the development of character. There is abundant evidence of the good effect upon the young, of getting them interested in the study of the various phases of nature. The boy who has become interested in this subject will not grow up to join that army of careless men who start forest fires by throwing away matches, cigar or cigarette stubs that have not been properly extinguished, or by leaving camp fires containing sparks or live coals to smoulder in the ashes. Millions and millions of dollars worth of valuable forests are destroyed every year through these causes. This is only one of the many benefits accruing from nature study.

Last January, the American Nature Association started the publication of the *Nature Magazine*. The appearance of this magazine in the field of literature is a notable educational event—one that will have an enormous influence for good. The price of this beautiful monthly is merely nominal—$2.00 a year. Its illustrations are numerous and beautiful, and its typography is of the highest class. While it is primarily devoted to spreading an interest in the subject among boys and girls, it is nevertheless most interesting to people of all ages. I had the pleasure of sending in a subscription for a boy of my acquaintance, last winter, and, on visiting the family last month, I was somewhat amused to observe that the "grown-ups" of the household read the magazine so eagerly that the boy grumbled that he could not get a chance at it when he wanted to. It reminded me of the solicitude with which "Dad" and the other "grown-ups" find it necessary to conduct Johnny to the circus.

The *Nature Magazine* is fit to rank with such publications as the *National Geographic Magazine* which is generally conceded to be the leader of them all.

I am writing this article as a voluntary tribute to a meritorious publication and, especially, to a meritorious cause. I know of no more worthy work than to help spread information that will tend to check the wanton destruction of our wild game and of our forests.

I do not know what the advertising arrangements of *Nature Magazine* are or whether they send sample copies on request as a means of getting subscribers; but I do know that 25 cents will bring a copy, and I am sure that no one will regret the small expenditure. The address is: Nature Magazine, 1214 Sixteenth St., N. W., Washington, D. C.

I quote from the prospectus the following paragraph, which gives an idea of the spirit of the publication better than I can in my own words:

"At last, an adequate meeting place has been provided for the Fraternity of the Great Outdoors. *Nature Magazine* has come in answer to a long-felt want—a monthly magazine where the child and the grown-up alike may revel in pictures and stories of birds, beasts, fish, trees, plants and other living, breathing evidence of the Creator's handiwork.

"To every man, woman and child who thrills to the chirp of birds, to the friendly wag of a dog's tail, to the woodsy tang of cool, wet moss and the soft rustle of wind through the topmost branches of leafy trees, *Nature Magazine* will be a monthly treat.

"You will find in *Nature Magazine* a publication perfectly attuned to *your* nature, feeling the things that you feel, and expressing your thoughts. You will find instruction through the medium of entertainment. You will agree that here is not 'just another periodical,' but a publication with a real purpose."

It is this "real purpose" which leads me to call the attention of my readers to a magazine that will not only be read with pleasure and profit, but will have an influence upon the rising generation that will produce results for all time and will add enormously to the resources of the nation.

As an illustration, we may take the case of the snake. In the past, the attitude of both, old and young, towards this reptile has been one of fear from a mistaken belief that most varieties were poisonous, and also partly from an instinctive repulsion that is probably atavistic, or a race memory from our ancestors whose habits were arboreal. All snakes were regarded as vermin to be killed whenever met. The truth is, that, in the United States, there are only about four varieties that are really poisonous: the rattler, the copperhead, the water moccasin and the coral snake. A scientific study of the subject has proven that all the others are as truly friends of man as are our vermin-destroying birds. They live upon crop-destroying mammals, such as mice, rats, gophers and even larger animals, thus benefiting the farmer. Among the harmless snakes, are the common garter, milk, water, king, bull, black and many other varieties. The warfare of man against noxious insect pests is ably seconded by these reptiles which are so much feared by the majority of human beings. It is only since science has taken the matter in hand that the true facts have been promulgated. The average man bases his beliefs mostly on tradition; science finds the truth by observation and experiment. The average man believe snakes to be the enemies of the human race; the man of science cuts open their stomachs to find out what they eat, and the result proves them to be useful friends. If the farmer only knew it, he is injuring himself when he encourages his children to kill snakes.

In September issue of *Nature Magazine* appears an article entitled, "Why Nature Study?" by Elizabeth K. Peeples, in charge of the nature study department of the Washington (D. C.) schools. I quote a portion of it:

"Why teach children nature study? It would take a long time to answer fully, because there are so many irrefutable arguments for placing it in every well balanced curriculum. Its healthfulness as an outdoor sport with a purpose that gives it zest, its saneness as an approach to sex instruction, its safety as an outlet for pent-up energy, and its cultural value may well be urged.

"Forest aisles, sunsets, bird songs are free for all. The busiest man in the world has time to gaze for a moment each night at the stars and nod to his old friend Sirius, provided he is an old friend. No housewife but may lighten the drudgery by raising a window box of flowers or studying the habits of the ants against which, peradventure, she wages war in her kitchen. And even those denied the out-of-doors, through physical infirmity, may have it brought to them in generous portions and almost without cost.

"Best of all, there is no partiality in nature. The sweet wild things are not snobbish. The first hepatica and the bright-eyed furry creatures of the wood open their hearts equally to tramp and millionaire who really loves them; and with their shy companionship have brought content to men like Burroughs and Thoreau. Shall you and I, then, overlook such opportunity, a perpetual feast for all the best that is in us, given us without money and without price?

"That the normal child needs only 'half the chance' to become an enthusiast in nature study, any teacher of the subject will attest. Neither her munificent salary, nor the carrying of tons of material to class are her reward. Rather, it is the heartfelt grin of the small boy who meets her at the school door with the salutation, 'you going to give us a lesson today? Hot dog!'

[I am informed by a boy of my acquaintance that those two words are an exclamation of the highest approval.—Ed. R.]

"One of the pleasant, heartening things about the subject is that it has neither begin-

ning nor end. The best of its followers can but scratch the surface of the infinite. Then, why wait until we are authorities on weeds or insects, before calling the attention of our children to the dandelion in the dooryard or the fly on the window pane? Care in the selection of material, patience in observation, resoluteness in not jumping at conclusions, sympathy with the child, and a genuine, keen enjoyment of him and the pollywog he is studying, have put many a one farther along the road to success as a nature teacher than much learning. To be sure, when great knowledge and teaching ability are combined, we have the ideal toward which we struggle. But, may we not begin teaching before becoming Anna Botsford Comstocks or Liberty Hyde Baileys, and work toward our goal while we teach?

"But," you ask, "in a world full of material, where shall I begin?" Usually with the thing close at hand. Let the boy study the tree in the school yard before he investigates those in the nearest woods or city park—unless (and this is most important) for some reason, he has developed a burning interest in, and curiosity concerning, those trees in the woods or the park. Where conditions permit, the molding of the course of study to the individual interests of the child brings gratifying results. As a beginning, the only nature material better than the familiar thing is the thing about which the child wants to know, whether it be a Baltimore oriole or a cockroach. If, in a large class, interests prove too diverse to make such selection practical, the fauna and the flora of the immediate neighborhood should be used as a basis, with the teaching of the adaptation of the animal or plant to its environment, and its place in nature's economic scheme as the underlying purpose of each lesson.

"The wide mouth, long wings, and weak undeveloped feet of the swallow, which we watch round some nearby bank or barn, are ten times as interesting when we discover that this bird is almost never seen walking or hopping about on the ground; that, except when it perches to rest, it spends its time on the wing in pursuit of harmful insects which are caught in its capacious trap as a source of its food supply.

"A nature lesson without live material is Hamlet with Hamlet left out—and, whenever possible, carry the audience to Denmark, that is, out of doors, that it may see the jewel in its proper setting. When this is impossible, bring the flower or grasshopper or little pig indoors to them. Pictures and supplementary reading are good things, but living plants and animals and sharp eyes are better. The teacher who, while the circus parade passed, forced her unwilling victims into the school room to read a lesson on "Wild Life in the Jungle," made a mistake.

"We learn by doing. Projects not only instruct but keep up the interest. If the enthusiastic pupil does not 'start something,' the teacher may drop a timely hint. Let not the uninitiated be confounded by a reference to the much discussed 'project method.' It sounds technical, but the collecting of pressed leaves or the whittling of toys from various woods suitable for the respective articles are simple, if instructive, activities; a campaign against rodents or some injurious insect is a benefit to the community, and especially stimulating when competition plays a part; a scrapbook of personal observations of birds, wild flowers, or butterflies is a treasure for a lifetime; and a birdhouse in the yard is a thing that may well be regarded a joy forever.

"That nature study has a tremendously practical as well as an esthetic side, seems obvious enough; yet, it is sometimes a heartbreaking task to convince the adult who has not been taught this fact in youth. Surprisingly few people know that, if bird life were destroyed, insect pests would strip the earth of vegetation in about two years, leaving animals to perish. Surprisingly few people know that rats and mice destroy $200,000,000 worth of property in the United States every year and that, by spreading disease, they have caused more deaths than all the wars in history. Surprisingly few people know that forests are not merely necessary for timber supply, but that, without them, streams dry up, erosion destroys fertile soil, and the land becomes a desert; and that in spite of these facts, the United States of America annually cuts and burns four times as many trees as are grown. And, more surprising still, many an otherwise intelligent individual, uninitiated in nature lore, when confronted with these breath-taking facts, merely wags his head in apathy or incredulity.

"In a country whose future depends upon the conservation of her natural treasures, ignorance of this necessity is a sin. Thrice guilty the parents and educators of today who leave the men and women of tomorrow in such ignorance!

"In a world of natural beauty, blindness and deafness to the miracles about us is a tragedy —no less. Shall we not give to our children

this inheritance—better far than jewels and gold—whereby we insure to them happiness and uplift in every walk of life, and implant in each a realization of personal responsibility for the future welfare of our home land? Is there any investment of time that could yield a richer harvest in the future of the race?"

[The last three paragraphs of the foregoing quotation are worthy of being reproduced in every periodical in the land.—Ed. R.]

The leading article in the September issue of *Nature Magazine* is also a noteworthy one. It is by Dr. Wm. T. Hornaday, director of the New York Zoological Garden. He calls attention to the deadly effect of the automobile as a game exterminator. Men calling themselves sportsmen have found that, by the aid of this useful machine, they can kill in a day man times the quantity of game that they could without. Dr. Hornaday estimates that the automobile has increased the perils of wild life by 50 percent. The game hogs and pot-hunters are thus proceeding to exterminate certain kinds of game, if not checked by law. It behooves true sportsmen to help secure such legislation, or there will soon be no game to hunt. The article is illustrated with photographs of automobiles loaded with slaughtered game in quantities far greater than the products of a legitimate hunt. Many of these game murderers are wealthy men whose chief motive is vanity—they brag of their enormous "bag." They have not even the poor excuse of the pot-hunter—that of making a living.

Space does not permit me to quote Dr. Hornaday's article, but it is worthy of being broadcasted everywhere. He is probably the best-informed living authority on the subject of all matters pertaining to wild game.

Note—Since the foregoing article was written, I have received, in reply to an inquiry, a letter from the publishers of *Nature Magazine*, the gist of which is the following sentence:

"You may plainly state that everyone writing for it will receive a sample copy of *Nature Magazine*."

And further:

"You will be interested to know that there is no one class or profession, with the exception of the teachers, among which we number so many subscribers as the doctors. They like the magazine immensely, not only for their own reading, but for the tables in their waiting-rooms. Many of them have written to me that it puts their patients into a very good state of mind for treatment, particularly when such treatment includes advice to have fresh air, sunshine, the out-of-doors, some nature hobby, or so forth."

I may add my own testimony regarding *Nature Magazine*, by saying that I have been a subscriber from the first issue, last January, and there is no periodical that I receive and read with such eager pleasure and satisfaction as this. It reminds me of the eagerness with which, as a boy, I used to read *St. Nicholas*, which was then under the editorial management of the late Mary Mapes Dodge.

[*Concluded from page 748.*]

head lice and body lice may transmit the disease by sucking up the germs in the blood of an infected person and transmitting them to other persons whom they bite. Tens of thousands of cases of typhus fever have taken its toll in Europe in the past few years. The United States is practically free from this disease; but, occasionally, cases are seen in a mild form. So, in this we have a good case against the louse.

Incidentally, it is well known that the lice that infest rats and may from them invade the heads and bodies of humans, carry the virus of bubonic plague and have been responsible for the epidemics of that terrible and fatal disease.

In the *Weekly Bulletin of the Chicago Department of Health* (Sept. 1), attention is called to this important and timely problem and it is announced that school children will be examined carefully for the presence of all vermin, especially lice. No child is to be allowed to remain in school who has lice or nits or who is in any way unclean or a nuisance. The sin does not lie in having lice, it lies in keeping them.

Whenever children are sent home for necessary care and treatment, because they harbor vermin, the parents are advised to take them to their family physician, who will undoubtedly give them the necessary treatment to remove the lice pest. To those who are unable to do so, the Department of Health advises the following in order to free the hair of vermin:

> Kerosene Oil and Olive Oil (Sweet Oil). Equal parts—half a pint of each.

Mix the kerosene and sweet oil and rub the mixture well into the scalp. Cover the hair with a large bath towel or rubber cap. Do

[*Concluded on page 780.*]

Good Medicine

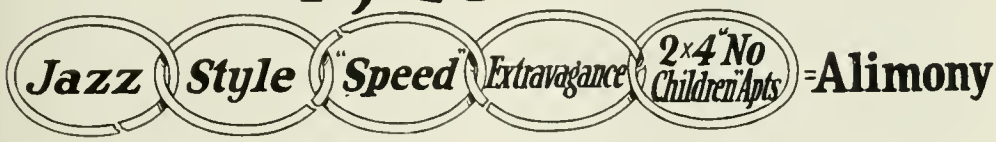
Let us learn as we go, but not forget what we know

Conducted by GEORGE H. CANDLER.

"The Holey Bonds of Matrimony"—As Is

1823

1923



IF "a chain is no stronger than its weakest link" then, surely, day by day in every way, poor old Mat is getting weaker and weaker. One is pained—though not exactly surprised—to learn that, over a given period, there was one divorce granted to every five marriages solemnized. That term, canonical as it is, expresses the forging of the bonds most fittingly. One, forming his ideas from the happenings in certain centers of this United States, is almost prepared to be informed at any moment that the divorces *exceed* the number of marriages. Moreover, one cannot possibly tell how many of these marriages are "first chop" or second, third or even fifth-handed, for it is becoming quite the thing to trade in your mate and your car every second season. The 1924, "Marriage Memoranda" books will, one is reliably informed, have two pages added for entries of "decrees granted."

There is also some vague talk of modernizing the decidedly "old-model" marriage service by substituting for the rather terrifying "till Death us do part" the words "till one or the other of us gets tired." Old reliable married couples, of course, will object to this on the grounds that every couple gets "tired", more or less, after a little while and, like long-distance runners, have to gain their second wind to make the distance and so preserve the conventionalities and the HOME.

Children and the Family

Moreover, if, before that second wind is gained, the twain-made-one by lawful procedure find little replicas of themselves cluttering up their domicile, there is not alone the HOME to be preserved but the FAMILY. This is where the erstwhile "flowery bond" may become indeed one of tempered steel and, in the past at least, there has been a decided disinclination upon the part of organized Society to help loosen the fetters under such circumstances, no matter how they might gall one or both of the wearers. For, said the wise men and women "Society, the Home and the Race *must* be protected, even though the individual suffers or goes entirely to smash."

One must admit that the welfare of the many should be paramount to the temporary or permanent happiness of the individual, but, after all, the "many" is made up of individuals and, if too many of these are miserable, how can there *be* any "general welfare"? There can, of course, be no argument about parents being responsible for the welfare of their off-

spring. "All right," say the Liberal Unconventionalists, "we'll fix that by not having any offspring. Further, we don't want to build HOMES, we only want up-to-date apartments, congenial companions of the opposite sex and more or less frequent change of furnishings—all down the line. Moreover, we believe in the right of the individual to express himself or herself, and we deplore the tendency of less intelligent people to meddle with the sex life of other individuals. The present is ours—the future may take care of itself.

All of which sounds plausible enough—until one thinks awhile and realizes that those who plod along the old roads in antiquated fashion will, sooner or later, have to tow these unattached (for, ultimately, the majority of these roaming Romeos and sampling Juliettes will become passé and unattached) to some Snug Haven where they may dodder around till Death comes to ease them from the distress of living upon the bounty of those whose lives have been better regulated. "Of their own, to help them, they have none."

If marriage *is* a failure, it is undoubtedly so, in part—a very small part, though—because the number of virile males and impressionable desirable females who hold such views is continually increasing. However, lots of these people don't bother to get married at all: they simply flit, flirt, fit and unfit, as the Spirit moves them. Therefore, they neither add to the Matrimonial Roster nor provide grist for the Divorce mill. The thing of real interest then is, to find out why so many people hesitate to get married or, if they do marry, refuse to stay where they were put at their own request.

What Marriage Means

In order to study this problem, even half intelligently, one is first compelled to settle in his own mind what MARRIAGE means. It would be eminently unfair to say that this institution, condition of servitude or beatitude, or whatever it may be termed, is or is not a failure, unless one possesses at least a fair working knowledge of its fundamentals. The word marriage is derived from the medieval Latin *maritaticum*, from *maritus* husband, and this again from *mas* (mar-) male. It really means "the consorting, or union, of man and woman *which is sanctioned by the community.*" Unions not so sanctioned are not regarded as "marriages" and the offspring of such "unsanctioned" unions have for centuries had a more or less uncomfortable time establishing their right to exist. As the peoples became more inclined to bow to rules laid down for their guidance by State or Church, these unsanctioned unions and the natural fruit thereof became more and more distasteful—officially—and, in every land where the light of Christianity shone, the "mistress" and her "love child" were regarded with covert or open scorn and found themselves legally not much better off than the brood mare and foals. The *sire,* however, "sinner" though he was, could at all times *marry;* that is, *take,* "with the sanction of the community," the very flower of the female flock and if, as often happened, the children of this union, blessed by Church and State, were inferior mentally and physically to those borne by the mistress, they still were selected to bear the Sire's name and inherit his property. Children born out of wedlock, regardless of circumstances, were "nameless" or assumed that of the mother. The unfortunate mother herself, no matter how devoted a mate she may have been, was regarded as "without the pale" and the ordinary male, roué though he himself might have been, would hesitate a long time before covering such a one with the eminently respectable mantle of wifehood. The woman has ever taken the rough edge of Love and though, today, we are beginning to look at these things in a more just and rational manner, we still are hypocritical enough to sin secretly and stone those who get caught. MARRIAGE or "the union of the sexes sanctioned by Church or State," is "good and blessed"; any other form of such relation is "bad, very bad, and to be unhesitatingly condemned." Marriage, as we see it, is designed to bring about the necessary union of the sexes, the formation of homes, the perpetuation of the race and the preservation of property—particularly the latter.

Therefore, it is or should be the "desirable state" it is frequently described as being, and the question is not: *was* it; but, Is it? If it is an ideal or at least a reasonably satisfactory condition upon which every normal individual enters or hopes to enter sooner or later, what has happened to make so many thinking members of modern society regard it either with veiled suspicion or with distinct aversion? There must be a reason and, perhaps, where divines, legal luminaries and humanitarians have failed to find it, a medical mind fairly familiar with physiological, psychological and economic facts may formulate a satisfactory answer.

Marriage, to be successful, must be a success: that is to say, if the majority of marriages do not turn out successes, MARRIAGE

as an institution cannot be regarded as successful. *Occasional* failures are, of course, to be expected; but continuous disasters, or the failure of many of those who should marry, to do so, must throw a grave doubt upon the integrity of the structure itself. Is it possible that conditions have changed to such an extent that things which were possible and even pleasant for our forebears have become impossible or distinctly displeasing to us? Perhaps some of them have. Here it is necessary to state very distinctly that no criticism is made of the "sacrament of marriage" where it *is* a sacrament. If every marriage were *that*, surely no one could find a flaw in the result! Neither is any attempt going to be made to review the development of the Law of Marriage. We are concerned here with certain primary and really very simple facts, and upon these and nothing else worth while does the success or failure of marriage depend.

First and foremost, Marriage insures the union of the sexes—the *decorous* union might perhaps be the better term. Naturally, in this part of the world, the male reaches the reproductive period at or about the fifteenth year; the female sometimes a little sooner or a year later. In times primeval, when the mating urge came to John, he went forth and captured Mary; having her, he went "out on his own" and foraged for them both—she helping him then, even as she should do, usually does(?) even now. Their children came and the fit survived and the unfit died. Today, unhappily perhaps, there is an excellent chance for the weakling to live while his sturdier brother gets drowned, run over by an automobile or meets death, untimely, in some other guise. Evidently, the founding of a family and the seeding down of group or communal traditions was not, in the earlier days, a complicated matter. Young male and young female met, mated, moved from the parental shelter, whatever it was, and started a new nest.

Then Barter Entered

So, with more or less variation, things proceeded until fathers found that they could use their sons and daughters, first, to add to what they already possessed and, second, to aid defend their possessions from those who had less and would fain take from others that which they lacked. The men were now more valuable than the women, and the unmated young male could be used where the mated could not. So, the elders began to regulate mating, and it became a matter of "get something for me" or "do something for me John, before you go after Mary. I've fed you for a good many seasons and, now you can be of some use, you stay here and turn in. Later on, we'll see about the girl." Then Mary's paternal relative discovered that John, Thomas and William were all making funny eyes at her when they passed, and straightway (he was rapidly becoming civilized) he conceived the idea that, if they wanted something he owned, they ought to give something for it. As a result, the one who could give most, got Mary. THAT was how wives were first secured—by purchase. They became the lawful chattel of John or Thomas and he could, and did, sell or trade them (it was usually "them", not "her") if he felt like it. He might also keep her children or sell them with or apart from her. Usually, however, they all stuck together and prospered or went down *en famille*.

There were no "morals", as we know them, in those days and, even if John did not definitely and immediately leave the parental roof when he first realized that Mary was the one thing in the world he wanted, it is reasonable to assume that he acquired her by stealth. Doubtless, she, also having a desire for John, would have thought him a blamed fool if he hadn't. Which, of course, was all very deplorable and entirely wrong to our way of thinking but ridiculously *natural!* Just as soon as possible, however, and with no fuss about it, the young males and females definitely mated, migrated and thereafter maintained their own *ménage*. And the world went serenely along.

Time passed, as it always had, and conditions changed—in some places more materially than others. Here communities grew, combined and became powerful. Stern men ruled, with or without the help of inspired priests and sages, and crude codes were formulated which separated the sexes to a greater or less extent. Already the securing of a mate was becoming more and more difficult and young John had either to sigh out his soul to the moon or get up and hustle and be or do something before he could get hold of Mary. As time still went serenely along, things got more and more complicated, until they locked the really worth-while damsels up in moated towers, and all that John could see of his Dulcinea was, a glove or a veil waved as he caracoled past upon his palfrey. The "common rabble" still had a much looser code, but even there, while the peasant wench might grant favors to the gallant above her in station, she insisted that the male yokel should

take her for his own in the eyes of everyone, before she yielded herself. She had been taught that she had to be maintained and that she must have a definite, responsible father for her children. Someone just *had* to "bring home the bacon", and most men preferred to bring it back to their own mate and her broods. For, *there* was his place of comfort (more or less) and security. So, the family spirit grew.

A Double Standard

Still time went along and females, here and there, were taught that they simply must not listen to Nature's promptings or do more than look sideways at a male until the right one (from Papa's and Mama's standpoint) came along. So, Society developed the "virtuous maiden", and man was taught that she was a most precious thing—something he must or should give much to possess as his very own. Here was a most desirable situation—if only it hadn't had a fatal flaw in it, even as our moral code has today. Only, we have more fool flaws. The maiden must be virtuous and, naturally, the wife must be even more so (I don't know how she managed it, but she is supposed to have been), but the young (male) dog "must have his fling", the gay blade "must sow his wild oats", before selecting one of the virtuous maidens to bear his name.

As it now cost something to maintain a wife, and both, maidens and their adoring fathers and mothers asked, "what has he got?" before they looked kindly upon his suit, the young male had a good many years in which to "sow his wild oats" and, alas! he had to have someone to sow them with. Now the question arises: WHY has Society always and persistently damned the young female who shared in the sowing, and winked indulgently at the male? WHY has Society turned thumbs down for the girl who loved even once, (if they caught her) out of wedlock and at the same time offered its own daintiest daughters to the man? Because, it seems, MAN MADE THE RULES OF THE GAME TO SUIT HIMSELF. HE was stronger than the woman; he felt the sex urge and he took what he wanted, if he could get it (if he could not do so with safety, he took what he could, often regardless of the consequences to his partner) and then, because it was quite often politic to do so, he dropped her (or *many* hers), married and became a "decent citizen" when opportunity offered. Then, because *he* now had a wife who *MUST* be beyond suspicion, he damned loose morals in other people—and went serenely along, awfully proper at home, but still a "devil among the ladies", when abroad.

THERE, Society itself put the first dynamite charge under the structure of Marriage. They made it a sham and a pretense. The earlier man had not waited, pretended or deceived. Neither had the woman. They were on a common footing save, perhaps, as regards strength. As a matter of fact, the ardent young female of the species, in those days, was probably quite able to hold her own with any male of her age. Later, she became weak, dependent and a chattel, not an equal. Hence, her only chance for survival lay in being, or appearing to be, particularly desirable, the peculiar property of one man. And man fought and died to keep her such. Naturally, safely enthroned, she turned her nose up and her thumbs down upon any weak sister who had no such sworn protector, even though her own liege lord was accredited as the one who had plucked the blossom.

Not a distinctly admirable picture, perhaps, but Society seems to have admired it greatly, and it has remained framed in gold to this day.

By this time, of course, the Holy Bonds of Matrimony had assumed very definite form and those who wore them were freed only by death or, under very particular circumstances, by some "high dispensation." Man trifled if he could, when he would. But, when he got married, he shared his bed and board with the female of his choice until the undertaker took a particular interest in the affairs of one of them. Of course, the woman the man married was a vestal when she married and, after that, like Cæsar's wife, was entirely above suspicion. Which may have been convenient. To a mathematician, it must always be somewhat of a puzzle how the man—who had latitude—found so many ladies to philander with when all the maidens awaiting marriage and all the dames already safely wed were so extremely proper? That, of course, is merely a side issue; hardly worth even a moment's consideration. And yet, come to think of it, hasn't it perhaps something to do with the rather shaky status of modern Matrimony?

Has Nature changed her plans to meet all these dictums and rules of a highly organized Society? *Hardly* an iota!

The Evil Consequences

As we are aware, the male of today matures long before we deem him a "marriageable man". The girl-child, as heretofore, blossoms out and feels more or less keenly the urge of sex long before she could convention-

ally became a "lawful wife." What are we doing to bridge that very dangerous period of years, to keep the girls vestals and the young men at least chaste enough to be fitting mates for such jewels? What are we doing to make early marriages possible? Nothing whatever! On the contrary, we are rendering such unions for the great mass; especially of the middle class, almost impossible and, at the same time, are throwing our growing girls (revealing more of their femininity than has ever been revealed since the days of the nymphs) into practically unrestricted association with young men; we feed them both, or permit them to be fed, with sex morning, noon and night. Books, music, plays, today mean sheiks, shimmy, salacity—straight sex stimulation; and marriage not even to be thought of by the young who have their own way to make in the world! John, even though he earn $40.00 a week, cannot hope to maintain Mary on that sum when a tiny apartment would cost him at least $70.00 a month and the furniture fit for such a place set him back, at a very conservative estimate, half a year's pay. Then take Mary. She has developed expensive tastes. Lisle hose, pretty gingham growns and white lawn unmentionables are not for her. She has felt silk next to her dainty skin, and every dollar she can possibly spare goes into garments which, twenty-five years ago, the plutocrat's wife or daughters would use sparingly. Oolah (Christened Beulah), the *svelte* stenographer, Madeline the mannequin, or Susette (she was Susan when smaller) the sales lady, demand "class"—from fur throws and wraps to sheer silk Teddies. If, single, they can earn enough to keep up the installments on their "glad rags", they are not going to give them up and wear house aprons and a poor little fur-trimmed coat even to be Mrs. John. Not Oolah or Susette!

The years slip by. They have a wonderful, wonderful time. They go far afield with Bob, in the green roadster. Tonight, they dine and dance with William. Tomorrow, they dance and sup with Herbert. And, once a week (perhaps twice), they spend a simple evening with their real "sweetie" who hasn't a roadster and can't, after paying his board and laundry (to say nothing of barber and haberdasher bills), afford more than the movies and chop suey and a swing at some open dance hall.

These "Wise" Virgins

Oolah and Susette both "know men thoroughly". Oh, yes, they're "wise to these guys"! "No one can string them." They say so, and that ought to be sufficient. Yet, the martial or massively mental males they "go out with" will tell you that no girl can "string *them* along." *They* know what they're doing. The girls assure their friends that they "were out down the line with a real spender last night—some class to him"! and the "feller" tells his buddies that he "hooked up with a smart wren", the evening before, "and she sure was some baby." There you are!

Wedlock on the Rocks

Now, all you have to do is multiply Oolah and Suzette by 100,000 and put matrimony, for reasons stated, temporarily at least, out of the question; and, where do we land?

But, marry if you please, a girl of this type to a "poor but worthy" young man; put her where his income only can put her; give her for one year just what he is able to provide, and what do you see coming?

On the other hand, take one of these Gloco'd Romeos and pin him (lawfully) down with a girl "who doesn't expect *everything, but does want what her other lady friends have.*" Will he or will he not, within six months, be tired of life in a 3x7 pigeon hole with in-a-door bed, disappearing bath-tub and beans cooked on a revolving gas plate? Won't the other "dolled-up babies" on the street look awfully good compared with Ellen Marie without her make-up working, and hasn't he learned long ago that variety is, after all, the spice of life? Does it take much imagination for you to see either or both of these poor deluded young things headed for the Divorce court?

With a wide experience, the "feller" says, "why *should* I marry?" The girl, often making almost as much as the man, wants to know also why *she* should be such a fool as to stop having a good time and all the clothes she wants just because her "sweetie" thinks he'd like to settle down.

If she does submit to having an engagement ring thrust upon her, she insists that it shall "cost more than Mamie's"—must be at least one carat (never mind the water or a few flaws) and be set in platinum. John, poor thing, pays a full week's salary (or wages) down and contracts to fork up ten a month for the next two or three years. That being settled, the loving pair start out to select the furnishings for their Love nest. Oolah thinks $700 would be about the right price for their bedroom set. John says, they're not going to *absolutely live* in bed and half the price would be too high. Oolah weeps and makes motions as though she would hand back the diamond,

whereupon John shivers but pays down the last fifty he has on the set. And the very next night, Oolah breaks the engagement because he won't (or can't) purchase a wonderful overstuffed davenport at the ridiculously low price of $230. She informs John that she never, never could stand a cheap skate and she'll *think* about returning the ring. Anyhow, she hopes he'll soon find some other girl with nice simple tastes. And she goes right off, rings up Harold Highblower and, curled up in his maroon eight-cylinder, ruminates upon the absolute ineffectiveness of John.

Naturally, a girl like Oolah, attractive as she is to men, should know what Love, that Love which leads to real mating, means. She will assure you, however, that she "isn't a bit mushy", that she has heard all the soft stuff the men put over, and it would "take *some* hot-air blower to ruffle her serenity." She has said it. Were the best man in the world, the most desirable and ardent, but decent, suitor to come along and woo her with the fervor (lingual) of an Adonis, she would merely regard it as mere rain pattering on the roof. She has heard it all before. She *always* hears it. She expects to be so entertained but it means nothing in her young life; and the hand clasp, the tentative arm about her waist, even the more or less lingering kiss on crumpled lips, are but "things which a girl who goes out with 'fellers' has to expect". She would undoubtedly be disappointed if they weren't forthcoming.

But, unhappily, she won't know the real thing when it does come and is apt, in some unguarded moment, to marry someone who can buy her an $8,000 bungalow she has set her heart on and pay at least one thousand down on it. "Yes Marie, and he's going to spend $2,000 more on the furniture." Within two years, she finds that she made a ghastly mistake—and that's that. She, again, is but one of many, many thousands.

Privileges Impose Responsibilities Which Can Not Be Escaped

Now, do you begin to see why modern conditions and the old model marriage, where Church, Home, Industry and Babies meant everything, don't fit in? And, is it not also possible that, contemplating things "as is" in your own home town, you can sense the fact that, slowly but very surely, things are drifting (ever so little, of course, in *your* town but with terrible speed elsewhere) to some sort of a catastrophe?

If "Marriage is more or less of a failure", isn't it because we are forgetting how to make it a Success? Demanding, perhaps, too many of the privileges of that estate without being willing—or able—to assume the responsibilities? Is the fault with us or are the bonds, as forged by our forefathers, too holey to hold us?

I AM told that it is no longer fashionable to believe in a devil—but I care nothing for fashion. A devil there is, I am sure, who, for some inscrutable reason has a share in the ruling of this planet—a devil who delights in mocking us from the cradle to the grave. And perhaps we are never so hopelessly, utterly fooled as in our marriages.

Marie Corelli ("Vendetta")

Let's Talk it Over

Active-Principle Materia Medica

With Physiological Effects and Therapeutic Suggestions

By WM. T. THACKERAY, M. D., Fowlerton, Texas

[*Concluded from September issue, p. 682.*]

Sodium Succinate

While the dosage of this drug is massive, its remarkable remedial effect in the treatment of cholecystitis, cholelithiasis, and all catarrhal conditions of the gall bladder and duct makes its use a necessity.

Without claiming that the use of this drug tends directly to the solution and subsequent dissipation of biliary calculi, clinical experience has demonstrated conclusively in very many cases that, under its continued use, the paroxysms of colicky pains become steadily less frequent and less severe, some serious forms ceasing entirely in due time, the dreaded surgical intervention being found unnecessary.

Moreover, in the majority of cases, as pain and discomfort disappear, the evidence of the presence of calculi gradually becomes less and less noticeable, until they can no longer be demonstrated.

The writer has two cases under observation where the last attack of bilious colic, (relieved by the administration of Hyoscyamine, 1/250 grain, every fifteen minutes, to effect), happened in July, 1921, and, in one of the cases, a surgical operation had removed an accumulation of gall-stones about five years previous to the attack in question; up to the present date, May, 1923, there has been no sign of a return of biliary trouble in either case.

Dosage:—5 grains three times daily before meals. About once each month, the writer has used Calomel, at night, followed by a saline in the morning. The daily use of a saline laxative is always advised.

Solanine Hydrochloride

The salt of an alkaloid from solanum tuberosum (potato).

Physiological effects:—Antispasmodic, nontoxic sedative, diuretic, diaphoretic, mildly narcotic. In full doses, it is a circulatory depressant.

Therapeutics:—Indicated in all conditions where irritation of the cerebral cortex is the cause of muscular spasm, as in epilepsy, infantile paralysis, pertussis, asthma of the spasmodic type, neuralgia, myalgia, cramping of the muscles of the extremities and dysmenorrhea, when these latter are due to pathogenic nervous tension.

Alternate with Gelseminine Hydrobromide when spinal irritation is present. Solanine is an excellent substitute for Potassium Bromide, it being equal in pharmacological potency to the latter, without its protoplasm-destroying action.

Since the intestinal tract is the most prolific source of peripheral irritation, the association of Verbenoid with the Solanine is highly recommended in those conditions where the brain cortex is the reflex source of muscular spasm. Verbenoid apparently has much the same action upon the peripheral nerves of the intestinal tract that Solanine has upon the cortex. This is an especially useful combination in epilepsy and allied states.

Dosage:—Minute doses are stimulant; medium doses, decidedly sedative; maximum doses, depressant. The toxic dose is high, from 5 to 10 grains.

In all cases, secure therapeutic saturation as quickly as possible with a few comparatively full doses, 1/12 to 1/6 grain, every three to six hours to effect, then maintain effect by smaller doses of two to four granules of 1/64 grain, three times daily.

Careful, complete and continued elimination, together with regulated diet and habits of living, always essential. (Abbott.)

Sparteine Sulphate

Salt of the alkaloid from Scoparius Cytisus (broom-corn).

Physiological effects:—The salts of Sparteine are bitter but not irritant to the stomach and apparently have the tonic action, the power to improve appetite and digestion, common to all bitters. Sparteine acts within an hour or two after its administration, the characteristic impression on the heart being made,

which confers upon this agent the well-merited title of heart tonic, above any other of the same group. Irregularity in rhythm, inequality in the force of the contractions are almost immediately corrected, and the action is lasting as well as thorough. Specially indicated in the derangement of the motor apparatus of the heart with weakness and irregularity of the pulse, when Sparteine affords relief in an hour or two, while Digitalis would require a day or two to accomplish the same results. Sparteine has no "cumulative action" in the sense in which the phrase is applied to digitalis.

Therapeutics:—Indicated in weakness of the right heart and incompetence of its valves, and in lesions and functional derangement of the mitral. Also in arhythmia, whether functional or structural, and due either to lesions of the heart muscle or valves.

Dosage:—1/64 grain every three hours until effect; then *pro re nata.*

Strophanthine

Glucoside from the seeds of Strophanthus Hispidus (the Kombe Arrow Poison).

Physiological effects:—By its bitter taste, like all bitters, promotes appetite and digestion. It does not irritate the stomach or cause nausea. Slows the heart-beat, lengthens the intervals between contractions, and increases the force of cardiac muscular tissue. The arterioles contract some and the blood pressure is augmented, which is chiefly due to the increased power of the cardiac contractions. The action of the heart is arrested in diastole.

As it decreases the amount of blood in circulation at a given time, it lessens oxygenation, hence it lowers the temperature. Its action is similar to that of Digitaline on the heart and arteries, but not on the arterioles which it contracts only slightly, and it consequently does not demand an extra amount of force from the heart to overcome it.

Therapeutics:—Indicated in the same conditions that require Digitaline and Sparteine, chiefly in mitral lesion, with its attendant disturbances. Also useful in exophthalmic goiter.

Dosage:—1/128 grain every one or two hours to effect, then three times daily, *pro re nata.* Children in proportionate doses.

Strychnine Arsenate

Salt of the alkaloid from the seeds of Strychnos nux vomica and other varieties of Strychnos.

Physiological effects:—In small doses, it stimulates the salivary glands, the gastric glands, and also those of the intestines, promoting peristalsis at the same time. The heart action is increased, the blood pressure somewhat raised, and the respiration is rendered more active.

The spine, brain and nervous system are also tonified by the action of this salt, the properties of the alkaloid predominating over those of the acid. In large doses, it acts as a powerful toxic, death resulting from fixation of the muscles of respiration.

Therapeutics:—It is the nerve tonic *par excellence* and the best incitant of the vitality. Available in nearly all diseases, especially in those where paralysis and atonia are present. It should be used in the initial period of all fevers, to combat vasomotor paralysis, in connection with Phosphoric acid.

When the defervescents are not tolerated, their association with Strychnine Arsenate renders them acceptable until their effect is attained; in spastic diseases, it aids to obtain the physiologic equilibrium controlling paralysis, while Hyoscyamine controls spasm. It tones up all organs and all functions, and it is one of the principal aids in acquiring longevity.

Dosage:—1/64 grain at shorter or longer intervals, in proportion to the acuteness of the disease and the diminished vitality.

Strychnine Sulphate

Physiological effects, therapeutics, and dosage, same as Strychnine arsenate.

Strychnine Hypophosphite

Physiological effects:—Nerve tonic with direct action on nutrition.

Therapeutics:—Indicated in all cases of vital depression arising from excessive work, disease or old age. It is indispensable in the pneumonia of the aged, in all adynamic diseases, in rachitis, in chloranemia, in impotence and in the convalescence of grave diseases.

Dosage:—1/64 grain every hour or as required.

Strychnine Valerate

Physiological effects:—Partakes of the properties of the Strychnine as a nerve tonic and of the Valerianic acid as an antispasmodic.

Therapeutics:—Especially indicated in all cases of mental or physical shock, in which class of cases its action is prompt and positive.

Dosage:—1/64 grain as required.

Taraxacin

Bitter principle contained in the root of Taraxacum officinale (Dandelion).

Physiological effects:—Mild hepatic stimulant and diuretic.

Therapeutics:—Indicated in dyspepsia dependent upon a torpid liver and other biliary disorders.

Dosage:—1/6 grain before each meal and at bedtime, followed by a saline aperient in the morning.

Tartar Emetic

Double salt resulting from the chemical union of Tartaric Acid, Antimony and Potassium.

Physiological effects:—In minute doses, well diluted, and taken at intervals of two or three hours, it acts as a laxative; in doses of 1/12 grain every hour or two, it promotes the secretions of the salivary, gastrointestinal, bronchial, hepatic, pancreatic and sweat glands and in doses of from 1/2 to 1 or 2 grains it acts as an emetic.

Applied to the skin with friction, it excites a follicular inflammation, followed by a papule, or vesicopustule, umbilicated, resembling those of vaccinia or variola.

The emetic effects of Tartar Emetic, (much better produced by Apomorphine), are accompanied by copious alvine dejections resembling rice-water, and by great nervous and muscular prostration. After entering the circulation, it diminishes the number and force of the arterial pulsations, and rapidly lowers the blood pressure.

Therapeutics:—It is useful in the incipient stages of acute catarrh, nasal, pharyngeal, bronchial and pulmonary.

Dosage:—1/6 grain to 1/3 grain in a tablespoonful of water every ten minutes until emesis occurs; 1/6 grain every two or three hours, as an expectorant and antispasmodic.

Veratrine Hydrochloride

Salt of the mixed alkaloids obtained from the seeds of Veratrum album, Asagræa officinalis, Sabadilla (cevadilla).

Physiological effects:—In small doses, Veratrine slows the cardiac action; also the pulse-beat may be reduced from eighty to forty or thirty-five; lessens respiration and lowers the temperature. In large doses, it acts first as an emetic and cathartic, followed or accompanied by violent twitchings, convulsions, and afterward great muscular weakness and prostration. When snuffed up the nose, the smallest amount excites violent sneezing, sometimes lasting for hours; applied with friction to any part of the periphery, it excites a sensation of warmth and pricking and, if persisted in, a red itching rash.

Therapeutics:—Indicated in pyretic and congestive conditions when the pulse is hard and full. Useful in acute pneumonia, inflammatory rheumatism, often in connection with Colchicine, in congestive cutaneous diseases and in acute chorea. In gastric catarrh, it clears the coating from the tongue and provokes appetite. In puerperal eclampsia, it should be pushed until convulsions cease or vomiting is produced. It is an excellent emetic for children. Aconitine is frequently used with Veratrine in pyretic conditions, also with Digitaline to sustain cardiac action.

The drug should be exhibited cautiously, if at all, where gastric irritation exists, where vomiting might prove disastrous.

Dosage:—1/128 grain, preferably in solution, each half to one hour to effect.

Zinc Cyanide

Physiological effects:—The activity of this salt is due to the hydrocyanic acid in its composition. In small doses, increases the salivary secretions, slows the heart action, lessens the movements of respiration, and causes nervous and muscular weakness. The temperature is unaffected.

Therapeutics:—Indicated in nervous cough, whooping cough, irritative dyspepsia, vomiting, ulcer of the stomach, gastralgia, enteralgia, etc. In stomach and intestinal affections, the association of Oxalate of Cerium and Bismuth Subnitrate with the Cyanide of Zinc, adds to its therapeutic effects.

Dosage:—1/6 grain every three or four hours for adults. 1/64 grain at similar intervals for children.

Zinc Phosphide

Physiological effects:—In small doses, Phosphide of Zinc, like Phosphorus, is a tonic and stimulant of the nervous system, aiding the repair of waste; stimulates the circulation, increasing the frequency of the pulse and producing dilatation of the cutaneous capillaries. The temperature is at first elevated, afterwards lowered; the urinary secretions and the relative proportion of urea excreted are increased, and also the secretions of the skin. The bony structure of the body is stimulated, so that the formation of bone, chiefly of the compact tissue, takes place.

Therapeutics:—Indicated in neuralgia complicated with migraine, nervous breakdown from overstudy, mercurial and other tremors, aggravated hysteria, epilepsy, chorea, locomotor ataxia, melancholia, local paralytic manifestations, impotence (functional), spermatorrhea, splenic leukemia, skin diseases, rachitis, caries, etc.

Dosage:—1/64 grain to 1/6 grain; the proper dose must be found in each case by careful clinical test.

Zinc Sulphocarbolate

Physiological effects:—Asserted by many clinicians to be an intestinal antiseptic. Dr.

W. F. Waugh says of it: "The writer has possibly administered more of the sulphocarbolate of zinc than any other man living; and he has not observed any effects from it except those exerted in the alimentary canal. If impure or if given in too large doses or too concentrated form, it irritates the stomach and may cause vomiting. But the chemically pure salt has been given many times in doses of 10 grains each and up to 2 drams in twenty-four hours, without any such effects."

[The Editor has found it advisable to watch the kidney function while giving the zinc salt of the sulphocarbolates. Sometimes it produces irritation. Ordinarily we prefer the salts of calcium and sodium.—Ed.]

"There are conditions of the stomach when many agents not ordinarily irritant will provoke nausea or cause soreness.

"Sometimes, a granule of veratrine in half a glass of water will give rise to a sense of warmth or tenderness that will outline the stomach accurately. A 5-grain tablet of potassium bromide, swallowed whole, caused a brother physician to roll on the floor in agony; and yet this is not considered specially irritant.

"It is wise to give the sulphocarbolates in solution or trituration with abundance of diluent."

It has been demonstrated beyond question that the sulphocarbolates exert a diuretic action increasing the excretion not only of the volume of fluid, but also of the solids.

Therapeutics:—Useful in all pyrexias and should be administered after the bowels have been thoroughly evacuated. When there is acidity, or when the zinc salt proves irritating, the sodium salt may be substituted, but in double the dosage, as this salt is not as antiseptic as the Zinc Sulphocarbolate.

In dealing with scrofulous children, in the peculiar diarrhea of rickets, and for consumptives having night sweats, the sulphocarbolate of lime may be used. It is about the same strength as the sodium salt. In fact, whenever the reconstructive effects of lime are indicated, this is the salt of choice and may be given with the hypophosphite or other salts of lime. (Abbott and Waugh.)

Dosage:—1/6 grain to 5 grains, *pro re nata.*

Zinc Valerate

Physiological effects:—Combines the nervine tonic action of zinc with the antispasmodic effect of valerian.

Therapeutics:—Useful in neuralgias, especially of the spinal and of the fifth nerve; also in chorea, especially in hysterical persons, epilepsy, and neuralgic and nervous headaches, sciatica, ovalgia, and angina pectoris.

Nervous unrest, worry, irritability, crossness, fidgets, even well grounded grief such as that from the death of a friend, are relieved by zinc valerate.

Sexual excitement is regulated by this drug, controlled but not weakened, and for nymphomania, satyriasis, spermatorrhea, and the erethism so common after abuse of the sexual functions, there is no better agent for restoring the strength and the control at the same time. This remedy is as useful for one sex as for the other. (Waugh and Abbott.)

Dosage:—1/6 grain, for adults, repeated every 15 minutes to effect.

DR. BRYCE'S TALKS

Our Homeopath Friends

I was much gratified at the liberal attitude of The American Journal of Clinical Medicine expressed in a recent issue concerning the merits of the homeopathic profession as viewed from the standpoint of the "allopaths," regulars, or whatever we may be termed, nowadays. There is no truer sign of real progress in our profession than a spirit of liberality and tolerance—a willingness to listen to the beliefs of the other fellow.

It is interesting to note the gradual recognition of the homeopathic by the regular profession, until now very little separates the well-educated homeopath from other medical schools but his special belief in therapeutic application, and I am not prepared to say that he is by any means essentially wrong in that. In my opinion, a closer acquaintance not only has given us more respect for each other, but has actually taught many of us that we do not know it all. When I entered the profession, the homeopath, the Thompsonian and the Eclectic were all classed as outsiders, or irregulars as we called them. Those were great days for all of us, and now that I look back, I cannot say who were the greatest sinners, but I am sure that the homeopaths were the most merciful and the least dangerous with drugs. While we gave rousing and nauseous doses, blistered by the yard and bled to fainting, the Eclectic-Thompsonian ran us a full even heat with his May-apple purges and his lobelia pukes and sweats, to say nothing of his many other botanic (and really meritorious) remedies. But it remained for the homeopath to come in between us all and, with his psychology and little sugar granules, win the hearts of thousands of tired and overdrugged sufferers.

Without subscribing to the doctrine of similars or the efficacy of infinitesimals or high potencies, I will admit that the educated and liberal homeopath has added much to the sum total of our therapeutic resources and has won his way to professional recognition and society affiliation.

Somehow, I have always felt that the honest homeopath was a most credulous person or simply a suggestive therapeutist; but, after long acquaintance with some of the most liberal of their school, I find that they are, like all liberal physicians, reaching out for whatever is good wherever they may find it. This has no bearing on those practitioners who assume the name for its business value only.

And now, looking back over a long period, I can say honestly that my personal acquaintance with many homeopathic physicians has been both pleasant and, in many particulars, instructive along certain therapeutic lines. I have learned that one may do more harm with massive doses of potent drugs than the disease would if left untreated altogether; that the little sugar pills or scented potions of high dilutions neither offended the stomach nor did any imaginable harm to the patient and gave nature a chance to do her work unopposed. I learned the great value of optimism, faith in the effect of supposed remedies, and hope. While I am in no sense a homeopath, I am indebted to my brothers of that persuasion for considerable change in my practice, from the "heroic medicine" of auld lang syne to pleasanter remedies and more merciful therapy. The homeopathic profession gave a good account of itself during the world war as physicians, surgeons and sanitary advisers, while recently one of them has acceptably filled the position of White House physician to the late lamented President Harding and, we learn, has been asked to retain the same place during the new President's term.

From my view point, there *may* be something in the law of similars, but I have never been able to demonstrate it to my satisfaction. That may be due to my ignorance of the real principles of homeopathy. However, I am a firm believer in "dose enough" to produce immediate, tangible and demonstrable results. Nor am I the only one who thinks this way, for, in a letter just received from one of the most prominent homeopathic physicians of the Pacific coast, I find the following utterances from an honest and liberal man. "I am not a very good homeopath. I use anything that I think will help my patients. I give low dilutions, there is nothing to the high dilutions any more than to the socalled Christian-Science treatments, Coueism, *et. al.;* and that's what has knocked our school galley west (high dilutions)".

I had a recent experience at the hands of a homeopath friend in Pennsylvania, who prescribed for me from the symptoms that I described to him in a letter. He promptly sent me a vial of tablets with instructions to take two every two hours for relief of neuralgic eye pain. The pain did not leave fast enough and, assuming that he was a good homeopath and consequently there was no danger in the whole bottle, I partook rather freely of the sweet little tablets until I realized that something was wrong with my eyes, head and stomach, and became convinced that I was under the influence of a pretty good dose of gelsemium. My only solution of this unlooked-for result was, that this friend was first a graduate from a regular school and afterwards took a degree from a homeopathic college, and I think he must have had his mind on his earlier training when he fixed up my medicine. In other words, *he* was another not very good homeopath, but a splendid fellow all the same.

Among my earlier acquaintances in the profession, was a dear old soul who had practiced "regular" medicine until Time had wrinkled his brow and deeply furrowed his cheeks, when he suddenly became an ardent disciple of Hahnemann and, accordingly, qualified his sign by placing under his name the word "Homeopath". He was popular with the physicians of Richmond, and his old confrères and colleagues did not outlaw him but kindly alluded to his change of faith as an evidence of mental fatigue peculiar to old age. He frequently visited me, loaned me books to enlighten me on his favorite theories, and we enjoyed the company of each other while differing in therapeutic belief. At his suggestion that I send him some of my cases that I could not cure, that he might demonstrate the value of his system and convince me, I had a case for him very soon. The patient was a middle-aged man living over a store, in poor circumstances, and dying of an enormously dilated heart. Seeing him propped up, swollen from head to foot and gasping for breath, my diagnosis and prognosis were made out at a glance, and I told his wife to send for Dr. H. who was an older and more experienced man than myself.

The next day, I saw the old doctor drive up, ease himself out of his old-fashioned gig and come creeping into my office. I noticed that

he was red in the face and seemed somewhat excited as he flopped down in an easy chair. As soon as he got his breath, he looked at me and said:

"Did you tell that woman to call me in to see that man dying of heart disease—the man living over a dry goods store on Broad street?"

"Why, certainly, doctor, didn't you request me to send you some cases that I could not cure?"

"Yes, but that is no joke, packing off your dying cases on me."

"But, I thought you might be able to save him with homeopathic treatment," I said to the old fellow.

"You didn't think any such durn thing," said the old soul with considerable warmth.

"Well, what did you give him, doctor?"

"Just what you should have given him yesterday, big doses of calomel, squill and digitalis repeated until effect, and I told them *to send for you today,"* he rejoined with a satisfied grin.

We had among our earlier Richmond doctors a very accomplished and genial friend, who was an orthodox homeopath and never tired of extolling the virtues of his system. One day, while he was sitting in my office and harping on his favorite theme, a hurry call came for me from a groceryman living only a couple of blocks from my office. I told him that I would be glad to have him go around with me and prescribe for the patient. He very promptly accepted my invitation and we were soon at the scene of trouble. We found a man lying in the middle of the floor of the back room with his legs drawn up and his hands pressing down on his abdomen, face contorted and sweat rolling down his cheeks, while he groaned with agonizing pain as he was spasmodically gripped, partially relaxed and quickly and more severely seized. He had what is most appropriately named "cramp colic," and this is a malady that stands no foolishness, as is well known to every boy who has passed through the green-apple age. I said to my friend:

"Dr. Barrett, please give him something for prompt relief." He called me into the next room and said:

"If you don't give that fellow something dam quick, he is going to die—this is no time for foolishness, give him some medicine."

"But, suppose you were here by yourself, what would you do?" I queried.

"I would send for you," he promptly replied!

I had a dear friend of the same faith as B., and we agreed to differ in our views of practice and agree on all other points. He was an accomplished man, a good sport and a fine musician, but in medicine an uncompromising adherent to his system. In the early fall, he went down on the Chickahominy River hunting sora, and, after a week in the swamps and marshes of that section (that did as much to disable McClellan's army as the Confederate soldiers), he came back to the city loaded down with sora and malaria. It was not long after his return, before he sent for me to come over just as soon as I had breakfasted. As I had never prescribed for him, I asked the messenger if he was sick. He informed me that he was "mighty sick", and was in a hurry to see me. When I entered his bedroom, I found him with a red face, a rousing headache, a burning fever, and about as miserable looking a man as I ever saw. I told him that I did not know enough of his system to treat him according to his preferences and that he had better send for some homeopathic friends. He said, he had fooled with Drs. B. and S. for over a week and he was willing to submit to any medication that would prevent another paroxysm. So, he very obediently swallowed 10 grains of calomel and 5 of jalap and prepared himself for 5 grains of quinine sulphate, three times a day for a week, which he took without a murmur; in fact he swallowed it with actual gratitude.

I learned, after he had gotten over his chills and fever, that some of his professional friends rallied him as not being true to the law of similars, and that he came back at them in his characteristic witty way by saying that *"big* disorders had to be met with *big* doses" and that was similar in size anyway.

Circumstances often make it allowable for a doctor to change his customs in prescribing and to change his ethics, too. I remember that a young Virginia doctor, a graduate from the regular schools, discovered that he had developed tuberculosis, and went to Arizona to live, in the attempt to regain his health. After several years, he returned to this city. In telling me of his experiences out there as a practitioner, he mentioned that most of the practitioners in that section were irregulars. I asked him if he ever affiliated with them in practice? "Affiliate? I should say I did", said he. "On one occasion, I gave a patient a hypodermic and in a few minutes she went into convulsions. Being a stranger among them, they looked at me in a most unfriendly and ugly manner, as if I had made a blunder, and I felt that, if she died, I might be sum-

marily dealt with. There was a *horse doctor* living near and I sent for *him* to consult with me. He came over and treated me most ethically, endorsing my practice and staying with me until the danger was over. Affiliate? Huh, I was thankful to him for recognizing *me*."

C. A. Bryce.

516 N. 10th St., Richmond, Va.

THE MAN UP-STAIRS*

Oh, listen, child, with the hectic flusr
And ghastly white of skin,
Hold close thine ear, so you may hear
The yarn that I shall spin.

'Tis a tale of the wild, of the resinous pine –
A tale of the Medicine Bow,
Where flowers bloom when there is room,
At the line of eternal snow.

A western town on a western plain,
Surrounded by serried peaks,
Where the hot sun burns, and court "adjourns"
When the deadly six-gun speaks.

And one of your kind had found this town
And he stayed at a bum café;
For he thought, like the rest, when he hit the "west",
He could live most any old way.

So he stayed in his stuffy room up-stairs,
Away from the wild-eyed crew
That swarmed at nights in the town's red-lights,
And danced the whole night through.

And he shivered and shook and coughed at night,
And he cursed the chilly airs;
And blesséd few of those who knew
Gave a dam for the man up-stairs.

But one there was with a kindly face
And a bristle of reddish hair,
And an eye of blue that looked you through;
He found his way up there.

And he held this poor old duffer's hand
And stethoscoped his chest.
Though he knew dead-right 'twas a losing fight,
He worked his strenuous best.

Just "Doc" they called him everywhere,
A name with a meaning, though.
For, in every direction was love and affection
For this odd and reticent old "bo".

He'd been for years there, in the town,
Old "Doc" was a house-hold pet,
In sickness and health, disaster and wealth,
Old "Doc" was their one best bet.

And so he worked for the man up-stairs,
Though he played a losing game;
But the cards were dealt, so he tightened his belt,
And fought on just the same.

The "man-up-stairs" was sinking fast,
And "Doc's" old smile was gone,
With teeth set hard, he had played his card,
For the winter was drawing on.

For, child, when it "snows in" once in there,
It stays "snowed in" till June,
And Doc well knew the man was due
To pass out mighty soon.

Then, kind but firm, he told the man
How he was mighty sick,
Though he might, at least, see his folks back east
Once again, if he beat it quick.

Then he found that a "freighter" was starting out
For Steamboat in an hour,
To try and win, e'er it snowed in,
The "pass" with a load of flour.

Well, "the man-up-stairs" rode on that load
With blankets wrapped about
'Mid the merry clip and crack of the whip
And the cloud of dust about.

And the joggle and ruckle of the wheels,
As over the plain they creep,
And the lurch and sway as they ride away,
Lulled "the man-up-stairs" to sleep.

He awoke shifting down the slant of the load
Heard the long-drawn sigh of the breeze,
Smelt the resinous smell in fen and dell
'Mid the gloom of the great pine trees.

Came a deeper shade in the sky above,
Where he glimpsed the storm-clouds loom,
And the rising sound in the trees around
And the rolling thunder's boom.

All told the tale of the "pass" and the "storm",
And he knew that the storm was on
As quick from the air floated flakes everywhere
Fell, melted, and were gone.

But, on they climbed through the gathering snow,
And won to the top at last.
But, there, in a bank of snow they sank,
Almost out of sight—stuck fast!

The "lunger" groaned and the driver cursed
As he cut the horses loose,
For they might get to Steamboat yet,
But the "lunger" and him—no use!

Well, grabbing his axe, he went to work,
With courage born of their plight,
And started in to try and win
A shelter for the night.

And this was the start of the cabin there,
You may see it yet today,
Tree-trunks were felled and firmly held
By trunks felled another way.

*This true story of the man up stairs may he amply verified. Personally, I had the story from his own lips. He is now a rancher of more than seventy years of age and lives in the country to the north of Steamboat Springs, Colorado.

Open? I will say it was,
Holes big enough for bear
To hike out through—if they wanted to,
Or in, most anywhere.

But it held the two of them till Spring,
What with the flour and meat,
Such as venison—a benison—
The two of them did eat.

And eat? I'll say they did, at that,
From biscuits to bear-veal,
Why, the "lunger" wound himself around
Two pounds at every meal.

And when Spring did show her face at last,
And snows no more endured,
The happy fate is mine to state,
The "man-up-stairs" was cured!

J. A. DUNGAN.

Greeley, Colo.

A CASE OF PERSISTENT HEMOPTYSIS

It was on the twenty-ninth of last June, about three o'clock in the afternoon, that I received a call to go to a house on Fourth Street and attend a young lady, a Miss B——, who was suffering from a pulmonary hemorrhage.

First seeing to it that I had along the things ordinarily needed to stop a hemorrhage from the lungs, I jumped into my automobile and started. It came to me, as I went down the street at the top speed of which the car was capable, that the name given me was that of a young lady recently from Kansas, who had signified that she intended to take treatment for pulmonary phthisis but whom I had not as yet seen, for some reason or other.

I was not long in arriving at the house and found that the young lady, who was a more than ordinarily attractive looking girl of dark complexion and rather full-blooded type, twenty-six years of age, had indeed had a furious hemorrhage, the amount of blood which she had lost being equivalent to almost two quarts. Yet, aside from the rather excessive paleness of her face and the basin about full of blood at the side of the bed, there was not much to show the extent of the trouble. In fact, her demeanor was what would have at once been set down as extremely hopeful. It developed later that her home physician had given her rather a hopeful prognosis of her hemorrhages of which, it appeared, she had had some four or five before coming here. If I remember correctly, he had always been able to stop her bleeding with a few doses of stypticin, at six-hour intervals, and it was plain that she had no expectation at all that I would not have the same good fortune. Confidence usually begets confidence, and it was so in this case; I had no expectation myself but that luck would attend me and that I would be able to stop the hemorrhage. Setting about the usual things done in such cases, I slanted her body upward from the hips to the head supporting it in a semi-reclining position with pillows and other supports, enjoined absolute quiet upon her part (though a strict adherence to veracity compels me to state that the injunction went to a considerable extent unheeded) and began to auscultate and lightly percuss the chest. The history that I was able to obtain from her relatives at the house made it apparent that, up to this time at least, the tuberculous invasion had been confined to a space about the size of an orange, involving the apex of the left lung. This space I found to be consolidated. Her former hemorrhages had, it seemed, come from this region, and it was apparent that the same thing was true of the present one, since the condition of both lungs otherwise was good.

Influence of High Altitudes on Hemoptysis.—

The young lady was at a loss to know why she should have had such a severe hemorrhage immediately upon coming to Colorado, where, at least according to her preconceived ideas, she should have been "better every day in every way" and where her hemorrhages, if any, should have been less. Some explaining was palpably necessary and, partly with the idea of keeping her quiet and partly with the idea of setting her right as regards the common effects of introducing an altitude element into a case of lung tuberculosis which is but slightly active and of the ulcerative variety, I took occasion to explain to her Webb's Mononuclear-Lymphocyte Theory, making the special application to her own case. Briefly it was this: Some years ago, Doctor Webb, of Colorado Springs, as a result of a series of blood-cell counts conducted from sea level up to ten thousand feet above, found that the mononuclear lymphocyte became increasingly frequent in its ratio amongst the white cells of the blood in direct proportion as one passed to higher levels. This fact, of course, would not be of such importance, were it not that it was simultaneously established by him and his collaborators that this same mononuclear lymphocyte was the only one of all the white cells able to absolutely destroy—wax-coat and all—a tuberculosis germ. The increase noted in rising from sea level, where this

cell would be found in the blood somewhere around fifteen percent, to an altitude of seven thousand feet, would be anywhere from one hundred to three hundred percent. In other words, after a short residence at 7000 feet, one might expect to find mononuclear lymphocytes existing in the blood at a ratio amongst the white cells of forty-five to sixty-five percent, and his resistance to the tuberculous process increased thereby to a similar ratio. From this, it would be easy to explain the apparently increased activity of a tuberculous process, for a time, upon the patient's entering the higher altitudes, as, following the usual order of all bacterial and parasitic life, the invading organism (as if aware instinctively that a force inimical to its life had entered the bloodstream) at once seeks to leave the bloodstream, perhaps taking up a more or less temporary residence encapsulated in the tissues and thus, at least for the time being, rendering itself safe; although threatening starvation on the other hand would, of course, eventually force it to throw off its envelope of fibrin and again seek the field of its former activities.

Although seldom found in the blood-stream, except in miliary tuberculosis, there seemed small doubt that the tuberculosis germ reacted in its habitat in the tissues to the same instinctive dread of the mononuclear lymphocyte as the latter increased in the blood stream, and with the idea, no doubt, of escaping destruction, sought a deeper hiding place in the tissues, boring its way after its usual manner and thus perhaps causing the ulcerative process to open a wider rent than common in a blood vessel, and perhaps causing the ensuing hemorrhage to be more severe than usual.

The Prognostic Significance of Pulmonary Hemorrhage.—

In this connection, the question came up whether or not hemorrhage cases were more hopeful as to recovery than non-hemorrhage cases of tuberculosis, and it seemed to me that they were, although I had no statistics to prove my contention, which was, that the better prognosis would be due to the fact that, just as in pleurisy with serous effusion of tuberculous origin, the lungs, upon the reabsorption of the fibrinous exudate, would have at hand a most ample supply of fibrin within which to encapsulate the original tuberculous focus or foci, and that quite similarly the prognosis would be a better one in the case of hemorrhage of tuberculous origin, as, in the residue of blood left at the site of the bleeding after the latter had ceased, there would be an abundance of material at hand from which nature could take up, as it was needed for building purposes, fibrin with which to heal and close the rent and with which to start the process of walling up the entire focus.

Treatment.—

It will occur to you that this patient must have been rather above the usual mental attainments or that my own garrulity had been exceeding all bounds. A little of both was true I think. I know that I was conscious of a desire to minister to the natural confidence in her recovery, which the patient seemed to have in spite of the considerable hemorrhage from which she had suffered. Furthermore, I had not been otherwise idle while the one-sided conversation was going on, having during this time also found out that her pulse was ninety-six, temperature ninety-nine, having applied several overlapping strips of three-inch adhesive plaster during the patient's forced exhalations involving the entire left lung, having applied to the left mammary region a light ice bag and, lastly, having administered hypodermically two cubic centimeters of hemostatic serum and in the other arm ⅛ grain of morphine without atropine. She was at this time feeling comfortable, had ceased spitting up blood, and, as there was nothing to show but what we would now be relieved from any further danger of a recurrence of the hemorrhage, I gathered up my things, took my departure "and went".

Persistent Hemorrhages.—

It was nine o'clock that evening, that I was again summoned to the house. The patient had suffered two more hemorrhages, the last one being somewhat severe. The hemorrhages were plainly of a passive character. According to my instructions left on the occasion of my previous visit, nothing but liquid food had been given, the ice had been renewed in the ice bag as desired and, above all, the patient had been kept as quiet as possible. I could find nothing to do except order a continuance of the measures already adopted, and to repeat the injections of morphine and hemostatic serum, which I did.

On the next day, I was at the house three times on account of renewed bleeding and, on one of these visits, I saw her vomit almost a basin of nearly black blood which had evidently lain in her stomach some time. There appeared nothing further to do, however, so far as I could think, except to repeat the injections, which I did thereafter every four

hours, only giving one cubic centimeter of the hemostatic serum at each injection.

Pneumothorax Considered but Found Impossible.—

On the following day, the patient was much weaker and very nervous, evidently having reached the conclusion that she was not destined to recover; which I secretly shared myself to a considerable extent. A trained nurse had been put on the job. It would be a proper case, one might think, on which to perform pneumothorax, but there was no available machine. However, with this idea in mind, I called up on the telephone a Doctor G. of Denver, who has under his charge a considerable sanatorium at that place. Going over the details with him, of the treatment so far pursued in the case, and the exact condition of the patient so far as I was able to gather it, he concluded that a pneumothorax operation was all that there was left to do. This coincided with my own opinion and, in the end, we arranged that he should come down on the following day and that the operation should be done, if all other things were favorable.

One will recall that there are certain dangers from the operation in even the most favorable cases for pneumothorax. Da Costa mentions the following: shock, dyspnea, spasm of the epiglottis, pleural reflex, gas embolism, convulsions, edema of the lung, empyema, pulmonary abscess (if the lung is stuck), cerebral embolism and emphysema of the chest wall. I think that it is only fair to say, though, that the dangers may be looked upon as inconsiderable in a favorable case, the most usual dangers being those of shock and pleural reflex.

Doctor G. arrived as arranged, bringing also his wife, who is a trained nurse, and his expert assistant in the use of the pneumothorax machine. His operation was all that could be desired as to technic, but it was impossible with two insertions of the needle, at different and apparently favorable spots in the left chest wall, to find a pleural cavity, and the effort was reluctantly given up to do a pneumothorax operation.

Intravenous Calcium Chloride.—

The gloom deepened several degrees after the Doctor left for Denver. The next day, the hemorrhage having continued until nightfall, at which it was easily apparent that the patient had bled more than three quarts altogether, I decided to give an intravenous injection of calcium chloride. Sterilizing ten grains and adding ten cubic centimeters of sterilized distilled water, I injected the solution into the median basilic vein. Part of the fluid escaped from the vein wall and afterwards made a slight sore, but never gave us much trouble. The hemorrhages were not so bad after this, although the patient was in a terrifically precarious condition. Her bowels had become tightly bound up through the continual administration of morphine, and I ordered a fourth of a glass full of castor oil to open them, believing that the continual absorption of waste products from the alimentary canal might possibly tend to keep up the hemorrhages. I think, however, that except in a negative way, the castor oil had no further action in stopping the bleeding.

Oil of Cinnamon Successful.—

The patient was at this excessively pallid, pulse only a flutter, the respiration of a sighing character, and without hope of recovery. I came home at eleven o'clock p. m., believing that I would never see this patient again alive. Convinced that I had used or tried to use all of the modern methods in this patient's behalf, I sat down in the library, took down an old book which I had not looked into for years, Dr. Finley Ellingwood's "Materia Medica and Therapeutics," and commenced reading in the clinical glossary the remedies named for use in pulmonary hemorrhage. The first one my eyes lit upon was "oil of cinnamon". Referring back to the discussion of this remedy, and recalling vividly and olfactorily that, twenty years ago, I had carried it in my medicine case, I found this statement made regarding it: "An extemporaneous prescription—is made by combining 1 dram each of the oils of cinnamon and erigeron and adding enough alcohol to make 2 ounces. Of this, from 10 to 30 drops on sugar or dropped at once on water will control nearly every controllable passive hemorrhage."

It was almost midnight, but I found one drug store open. They were out of oil of erigeron but filled the prescription with the other ingredient and the alcohol. Of this, I ordered 30 drops on sugar every three hours. I was able to get service from the house, and the remedy was hurried down to the patient and given religiously for the next three days. I am glad to state that the patient never had another hemorrhage after the first dose and she now is convalescing nicely, although she will have to remain in bed from six to nine weeks.

J. A. Dungan.

Greeley, Colo.

DISLOCATION—SUBLUXATION

I am an osteopath of thirteen years' experience, with a license to practice in Oregon; graduated from Los Angeles College, in 1910. I had taken one year's course at the Palmer Chiropractic School, but decided that it was too crude. So, I followed it up by the osteopathic course.

Instead of signing my initials as X. Y. Z., I want to be open and say who I am, and to show that I know both, chiropractic and osteopathy.

In my training as a chiropractor and an osteopath, I was never taught to say that a vertebra was dislocated. Subluxated vertebræ or rigid articulations are bony lesions. A subluxated vertebra, slightly deviated from the median line, is very different from a dislocated one. Many ignorant practitioners use the expression dislocated hip-joint when the sacro-iliac articulation of the right or left side is forced backward or forward. The proper term is "subluxated innominate."

I feel insulted as an osteopath to have a man who does not sign his name make the aforesaid disparaging remarks out of his ignorance of the osteopathic school. After fifty years' persecution, this school has at last won out this year, in California, and gained a licensing board, independent of the medical fraternity.

I have subscribed for your journal for the last four years, as I found it was very broad-minded. But, I have always been amused at the remarks made against osteopathy and at the custom of some men of calling us quacks and ignorant.

GODFREY HEATHCOTE.

Mexico City, Mex.

"HOURS IN SCHOOL"

In the September issue of CLINICAL MEDICINE (p. 674), reference was made to some information contained in the "Log Book", a college publication of one of the osteopathic schools. In this case, the fundamental studies in the healing art, which are given in all schools and which range from anatomy and histology to psychiatry, are given as consuming 7068 hours in medical colleges; 7078 hours in osteopathic colleges and—495 hours in the Palmer School of Chiropractic.

In a letter received late in August, too late to find attention in the September issue of the Journal, Doctor Schorb enclosed a page from the *Herald of Osteopathy* for April, 1923. According to this, the curriculum of standard instruction recommended by the American Osteopathic Association for Osteopathic Colleges provides for 4422 full hours. In the Palmer School of Chiropractic, those who wish to take the eighteen-months' (socalled three-year) course, are given 4103½ hours of thirty minutes each; that is, 2051¼ full hours. However, what is actually required to become a Chiropractor and to be entitled to the certificate to practice is attendance of 2634 hours of thirty minutes each or 1317 full hours.

Although this is a better showing than had been presented in our first information, it is still wretchedly inadequate, as is quite apparent.

"SOME PRESENT-DAY MEDICAL PROBLEMS"

Under the heading of this letter, a very prominent and successful surgeon has outlined, before the State Medical Society, his views of the present relationship of the component parts, or. schools, which together constitute the healing profession. You will notice that I have grouped them all together, independent of what each thinks of its own relative importance. He emphasizes the danger which confronts the Regular Medical School through encroachments by the various cults, or irregular schools.

It has been said that each crow thinks its own young ones the blackest. So, possibly, each cult prides itself on its own superiority.

Now, the term "Scientific School," as applied to any of the branches, is a misnomer. A school may be more or less scientific, and one school may be to a greater extent scientific than another, but, when it comes down to the fine point, the term scientific should not be used to define any one of them or even the whole lot, because the practice of the healing art, in the very nature of things, cannot be scientific. In fact, as one well known surgeon has said, he wouldn't guarantee the successful outcome of even removing a splinter from a finger. So much for the term "scientific."

I am constrained to reply to this criticism of the writer of "Present-Day Medical Problems," because I cannot see the arguments adduced as being founded entirely on fact.

While I have every respect for a great name and an eminent surgeon to whom I have had the pleasure of listening in his own city, were I to allow such criticisms of the cults

of healing to go unchallenged, it would seem as though I had not the courage of my convictions for the faith which is in me.

I am a nonsectarian in Medicine, with degrees from the Regular, Homeopathic, and Osteopathic colleges, and have studied Christian Science as much as I could through Mrs. Eddy's book and at lectures and meetings and discussions.

I am ignorant of the practice of a Naprapath and, very likely, of a good many other minor sects, but I have spent thirty-seven years in the study and practice of Medicine, and, on the basis of that and with no ill will, I would like to express some views divergent from those of the author of "Present-Day Medical Problems."

That there are several schools, or cults, in Medicine, is a self-evident statement. I cannot state the proportion, in numbers, of adherents in each, but I venture the assertion that the aggregate number of the supporters of the irregular schools would show not an insignificant part of the community, especially in the larger centers.

Our critic allows that there are three degrees of gullibility, especially in regard to belief in medical treatment: first, those who never tire of being humbugged; second, those who are not really happy unless stung once; and, finally, those that always play safe.

Now, some of these different schools have a great many adherents, and possibly one has more than any of the others, but the aggregate of the many equals or exceeds that of the largest single one. Who is going to determine which group is being humbugged, if any are? Is the criterion to be by numbers or by results? If a person is sick and is not cured or relieved by a practitioner of one school, and he seeks other methods of healing and obtains relief therefrom, he might reasonably be content to be considered a sucker by those who failed to help him, since he has his health back again.

I would like to add a fourth degree of gullibility to that list, and I apply this to the physicians themselves, particularly. I question whether gullibility is the proper term to use for the class of people to whom I refer. Perhaps you can for yourself supply a correct term for those who, on the strength of incorrect information or of biased and prejudiced information, pass on from father to son criticisms which are founded on lack of investigation, either through willful neglect or from lack of opportunity or through fanatical prejudice.

I have seen such critics referred to as "criminally responsible" in the face of results demonstrated and published time after time, but I rather balk at the term as approaching unparliamentary expression. You may find a less harsh appellation, though possibly all unparliamentary language is not necessarily improper. This applies to each of the several schools which, against reason and result, deliberately turns away from investigation and practice of methods that may not dovetail into some theory or other characterizing its own particular cult.

If I were asked to say which school was the greatest sinner in this regard, I would name the Regular school of practice. It is a safe bet that, when a medical man of the Regular school belittles or attempts to ridicule the practice of Homeopathy, he does so upon no practical experience. I've heard these critics time and time again, and I have asked them upon what they based their adverse criticism, what practical experience they have had, and the invariable reply, after considerable hemming and hawing, was worth just as much as their practical experience, namely, nothing. So also, their criticism of Osteopathy and Chiropractic, when based on no practical experience, is of value in proportion.

It is a marvel to me why the Regular-school physicians will run after some new remedy brought out by some possibly obscure promoter, but will not even investigate the system of Homeopathy, which is endorsed by hundreds, nay, thousands, of honest and influential physicians having the same standards of education as themselves and with just as eminent a clientele.

Do not for a moment suppose that all culpability in this regard is found in the Regular school; for, it is not. The Homeopathic, the Osteopathic and the Chiropractic are also to blame. Some of the writers in each of these are foolish in their claims and so tend to discredit the whole system which they may represent. But, if ridiculous claims are made by some enthusiasts, surely the bulk of the profession does not necessarily have to go on a stampede either one way or the other. There is no doubt that cures by manipulation have been made where medicines have failed absolutely.

Christian Science I call Mental Science and as such it seems to have a very useful field. However, if Mrs. Eddy's book is a criterion of the soundness of the system, I acknowledge defeat at once. I have the consolation, though, of knowing that I tried to digest her meth-

ods in order to make practical use of them. I know for a fact that her criticism of Medicine, and especially of Homeopathy, is fallacious and made with evident intent to bolster up her own theories. Therefore, I may reasonably conclude that the balance of her (to me and many others) incomprehensible compilation of words is on the whole equally erroneous and misleading.

Now, it is quite possible that the regular medical profession (and by that I mean the old established school of medicine) is in more or less danger of being swamped by the aggregation of various sects comprising the healing art. Is there a remedy for it, and what is that remedy?

There is but one answer that I can see, and that is, for the Regular School, with its established machinery for teaching, to incorporate into its curriculum, as compulsory, the teaching of the greater minor sects which have earned and command the confidence of the public. Then and only then will these newer schools, as separate institutions, be memories of the past. The student will then be able to obtain at one institution, at a minimum labor and expense, what he requires in order to compete with other practitioners successfully.

The greater minor cults, Homeopathy, Osteopathy, and Chiropractic, have come to stay. Take that in clearly and definitely. They offer systems of treatment which are not taught or practiced by the Regular school. Whether we like it or not, they have a great many adherents and their practitioners cure or relieve patients where the Regular physician fails. Statistics are not always reliable, but they do not always err; and, when they so often show the superiority of one method over others, is it not the part of an honest, reasonable and rational physician to endeavor to find out why his results fall below those of his brother practitioner? There should be but one school of practice embracing all sects which have proved themselves of sufficient worth; and, after all, it would not be such a tremendous work.

To many the term "doctor" means a certain standing in the community and a means of livelihood, and the way they choose to get this degree is, the easiest way. Is it fair that the Doctor of a Regular medical college should have to give so much labor, time, and money to obtain his right to practice, and that a like degree, or (at least to the general public) a similar degree can be obtained, by a short cut so to speak, at another college having an easier and less comprehensive course, of study? Obviously, it is unfair. Still, such is the case and will continue to be the case until the Regular school wakes up and throws off its prejudices which it has inherited from generation to generation.

Homeopathy is far from being a dead proposition. Hundreds of students were refused tuition, last year, on account of lack of accommodation.

Osteopathy and Chiropractic are very much alive to those who do not bury their heads in the sand like the ostrich. I have offered my services to my Alma Mater without cost to spread the knowledge of Homeopathy, but have been politely turned down. It is nothing to me personally; I did what I considered my duty.

It might be reasonable enough for a specialist in surgery to criticise a medical man who undertakes to do surgical work; but, does it not weaken his argument when he, a surgeon, passes judgment on the medical side of practice? When he also quotes as a leading authority a writer of poems who has the faculty of wielding a satirical pen and who uses this gift to ridicule a system of practice, Homeopathy, which is endorsed by over ten thousand reputable physicians in the United States alone, many of whom are graduates also of the Regular school, it would seem bordering on the ludicrous, did it not involve such a serious matter as the health and possibly life or death of many a poor suffering patient. Truly, it appears like a case of prejudice gone crazy.

The only solution to "Some Present-Day Medical Problems" is, to teach these great new systems in the Regular schools and make the course compulsory.

This article is not meant to apply in any way personally. It is merely an effort to reply to statements made in another article.

E. M. Morgan.

Westmount, Que.

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[Doctor Morgan's ideas found discussion in an editorial article, appearing in the last issue of the Journal.—Ed.]

ELECTROTHERAPEUTIC LECTURES AND CLINICS

It is a sad fact that theoretical and practical instruction in electrotherapeutics is available in only very few places and that most physicians who desire to take up these physical methods of healing are, more or less,

thrown on their own resources.

To be sure, there have been various schools in which such instruction was given, but, at the present time, we are informed that there does not exist a single institution devoting its efforts definitely to the teaching of physical methods of healing. We hope that we are mistaken in this. If we are, we shall gratefully accept correction.

Things being as they are, an undertaking by a Chicago firm deserves credit, through which, once a year, a course in electrotherapeutic measures is given in which the lectures and clinics are offered by men who are prominent in their particular fields. These courses have been held now for several years and the next session will be given in Chicago during the week from October 15 to 19.

H. G. Fischer & Co., Inc., who are arranging this course, do so entirely for the benefit of medical men who desire training in physiotherapy. The lectures are given in the Logan Square Masonic Auditorium, at the terminus of the Logan Square Metropolitan Elevated. The Fischer people issue invitations on request, and acceptance of these invitations implies no obligation of any kind—excepting the gratitude that everybody who receives benefit would naturally feel. It is even offered to make hotel reservations and to aid visiting physicians in every way possible.

The physicians who are to lecture and to hold clinics during this course are the following:

Gustav Kolischer, M. D., G. U. Surgeon at the Michael-Reese and Mount Sinai Hospitals, Chicago, Ill.

R. W. Fouts, M. D., Roentgenologist, the Lord Lister Hospital, Omaha, Neb.

T. Howard Plank, M. D., Physiotherapist, the American Hospital, Chicago, Ill.

Frederick H. Morse, M. D., Boston, Mass., ex-President the American Electrotherapeutic Association.

Curran Pope, M. D., Louisville, Ky.

Emile Du Val, M. D., Chicago, Ill.

Frank M. Burns, M. D., Albion, Neb.

Roswell T. Pettit, M. D., Physician-in-charge at the Illinois Valley Hospital, Ottawa, Ill.

H. I. Smith, M. D., Chicago, Ill.

Ward P. Burdick, M. D., President, St. Anthony Hospital Staff, Rockford, Ill.

A. L. Yocum, Jr., M. D., Chariton, Iowa.

We feel that this undertaking merits the appreciation of medical men and that it is one in the right direction: that of cooperation between physicians and those who provide their means with which they treat their patients. We hope to be present at several of the lectures ourselves, as we want to learn something about electrotherapeutics, at least theoretically, and we should be glad to meet many of our readers on that occasion.

OUR FAVORITE METHODS

The Use of Unna's Paint in Varicose Veins and Ulcers

There are, today, thousands of patients suffering from varicose veins and ulcers who, for one reason or another, do not submit to surgical operations for relief. Full 90 percent of these could not only be relieved but cured by a very simple nonoperative procedure. This procedure consists in the proper application of an Unna's Paint Boot. The first important thing in this application is, to have the proper material with which to work, and of this the Unna's Paint is the most important for, if this is not properly prepared, the result will be unsatisfactory.

Preparation of Unna's Paint

Take a double boiler (ordinary oatmeal boiler), fill the outer receptacle one-third full of water, then place ten ounces of cold sterile water in the inner receptacle and four ounces of ordinary grocer's sheet gelatine and allow to stand until the gelatine is dissolved. Place inner receptacle in outer receptacle and put over slow fire until thoroughly dissolved and hot; then stir in ten ounces of glycerine; then slowly add four ounces of zinc oxide, stirring constantly.

Its Application

Whenever the Unna's Paint is required, place the double boiler over a slow fire, being sure there is plenty of water in the outer receptacle, and heat until melted. Then apply the warm (being careful it is not too hot), melted Unna's Paint to the extremity with an ordinary paint brush, about two inches wide, about as a painter would paint woodwork with white lead paint. Over this, apply a lintin-gauze bandage about two and one-half inches wide without exerting any traction to the bandage and without reversing. Then another coat of paint. Repeat this five or six times, having the limb thoroughly covered in this way from the base of the toes to the popliteal space. Permit to dry and then cover well with ordinary talcum powder. Over this, the stocking can be applied and then the shoe, and the patient may go about his business. This boot may be left on from one to four months, if comfortable, until the skin and the veins

again become normal. If the extremity is swollen, it is necessary to elevate it on pillows for a nigt before the boot is applied.

If an ulcer exists, cleanse it thoroughly with benzine, then paint the surface with Unna's Paint, cover it with one layer of sterile gauze, another layer of paint, another layer of gauze, until about eight layers are applied. Then put on the boot, as previously directed in simple varicosities. However, in this instance, the dressing cannot be left on as long. It may be necessary to remove the first boot in two to four days or when the secretion begins to get foul. After this, the interval may gradually be lengthened. When the ulcer is completely healed, the further treatment is the same as that for simple uncomplicated varicose veins.

If properly applied, this dressing will cure all types of varicose veins and ulcers except two—namely, first, those ulcers which are caused by syphilis and in which the treatment must be supplemented by proper antiluetic therapy; and, second, in cases where the valves of the internal saphenous vein are incompetent, that is, not large enough to prevent the blood from flowing down past the valves, in which case a portion of the internal saphenous vein must first be excised and ligated before the boot is applied and before a complete permanent recovery may be expected.

EDWARD H. OCHSNER.

Chicago, Ill.

Dr. Edward H. Ochsner's suggestion, that we give others the benefit of our experiences with some of our favorites that are unusual in treatment, is very good indeed. Here is one that has never failed me and has saved several lives. It is the application of a fly blister to the scalp in meningitis.

In the first case of this disease that I had, the patient died a most horrible death. The next case, a man forty years of age, had a very severe attack. He had a bald head. It occurred to me that a fly blister over the scalp might help him. I applied one over the whole scalp. I was utterly astonished, next day, to find that the inflammation was controlled. Convalescence was prompt. I have used this remedy in many cases of meningitis since then, with the same result.

I use the cerate. Where there is hair, the cerate should be melted and worked down to the scalp. I have never found it necessary to sacrifice the hair. W. E. FOWLER.

Brookville, Kans.

I was much impressed with Dr. Ochsner's suggestion and am looking forward to his article.

The most useful trick I have is using pure guaiacol, in equal parts with milk and water, as an enema in all pleuritic and bronchial infections: First, clear the bowels with a quart of very hot water to which you add ½ pint syrup, preferably corn. Then wait a half hour and, with rectal tube or catheter inserted 6 to 8 inches, inject ½ pint milk or water to which add one drop of pure guaiacol for each year of age, up to 25 drops; repeat without a cleansing enema every twelve to twenty-four hours until temperature remains normal.

With a good nurse to follow directions, you will not have many calls to make on your pneumonia patients; in fact, they get well so quickly that you will doubt your own diagnosis.

Of course, use other treatment, but have no more prolonged cases of bronchial pneumonia in children.

F. W. STEWART.

Colfax, Iowa.

AMERICAN DIETETIC ASSOCIATION

The American Dietetic Association will hold its sixth annual meeting at Indianapolis on October 15th, 16th, and 17th, with headquarters at the Hotel Claypool.

With the present sensational progress and development of dietetics throughout the country, there exists the greatest need for well informed dietitians keenly alive to the problems of the day. The demand from hospitals, universities, schools, public-welfare associations and the commercial field, for food experts, exceeds the supply.

The program for Indianapolis will cover every phase of applied dietetics.

NON-SURGICAL TREATMENT OF CANCER

Below follow the literary references to Dr. Cummings' article on p. 719 to 725.

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What Others are Doing

"INTERNATIONAL MEDICAL ANNUAL"

In our announcement of the 1923 volume of the "International Medical Annual" (p. 779), we referred to the introduction by the editor of the "Annual," which contains the excerpts of a reference to many of the serviceable and informative articles contained in the body of the volume. We have found so much of use in these pages, that we venture to present, for the benefit of our readers, a few specimens excerpted from the introduction referred to.

While going through the proofs of the volume, the editor declares, he has been struck by the large number of articles it contains of practical clinical value. For some years, the work in the laboratory has tended to overshadow that of the clinician, and mechanical methods of diagnosis have been regarded as more important than personal examination, both physical and symptomological. We have now reached a stage, the editor adds, when we realize that clinical diagnosis must come first, and then we can seek every possible aid that the laboratory can afford to support or correct our reasoned opinion.

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The socalled Erlander method of "deep therapy" by x-ray radiation in malignant disease has been the subject of investigation and discussion for some time. An interesting article is contained in this volume of "The Medical Annual" and, according to Ward, the x-ray dose employed in that method is so near being a dangerous one that, unless the radiologist has an intimate knowledge of the apparatus, the technic and the principles upon which the method is based, harm rather than good may result. There is danger of delayed reaction taking place some time after the treatment.

In an address on otitis media, Sharpe states that, for chronic otorrhea limited to the tympanic cavity, no method gives results comparable with zinc ionization. It is not unusual, he says, to see the ear of an adult, which has suppurated continuously from childhood, cease to do so after a single application.

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In the article Varicose Veins and Ulcers, attention is called to the remarkable results of parathyroid gland substance, in doses of $\frac{1}{15}$ gr. given by mouth. The ionized calcium of the serum rose rapidly to the normal figure, and improvement took place. This looks as if parathyroid gland influenced the liberation or assimilation of calcium.

The value of emetine in amebiasis has incidentally shown that the active principle of ipecacuanha, when given in too large and repeated doses, can cause congestion of the lungs as well as the intestines. It is found in such doses to cause tonic contraction of the intestines, but some relaxation of the uterus.

The articles on skin diseases contributed by Dr. Graham Little are very practical and instructive. Thus, under alopecia, we have no less than twenty valuable formulæ given for our guidance. We are also told that resorcin and beta-naphthol must never be used when the hair is white or light in color; white hair may be changed into a yellow or green color; light brown or golden hair changes more slowly into a yellowish-green or, more commonly, auburn color. He also mentions a tradition that sexually active men become bald sooner.

A recent treatment for furunculosis is by injecting the boil with a 5-percent solution of camphor in oil, and dressing with a phenol, ergot, and resorcin ointment, of which the formula is given. Granuloma Venereum has yielded rapidly to intravenous injections of tartar emetic, which appears to act as a specific. We doubt if the value of tartar emetic as a bactericidal agent is yet fully explored.

In the article, Nails, Diseases of, the use of thyroid extract is suggested in cases where there is deformity of the nails. In the case recorded, the cure resulted in a patient who gave the Wassermann reaction.

In the article, Skin Diseases, General, there are some very interesting remarks on the bacterial theory and focal infection. Leslie Roberts considers that the common flora of the tonsils and mouth (the hemolytic and nonhemolytic streptococci and staphylococci) may serve a useful purpose in digestion, in much the same way that intestinal bacilli act. He

points out that our food consists of foreign proteins, carbohydrates, and fats, and it is essential for the welfare of the body that these should not be allowed to pass the wall of the intestine into the interior without first being deprived of their toxicity. There exists in the body an organized system of defense against foreign proteins. The first line is taken by the cells of the mucosa of the stomach and higher intestines, the second line by the bacteria of the colon, and the third line by the free-moving cells of the lymphoid tissues. The remarks made on the rationale of the action of foreign proteins are worth reading.

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There is only one way of curing a patient with brain tumor, and that is by its complete removal. Dr. Ramsay Hunt tells us in his contribution on Brain Surgery, that drugs, x-rays, and radium are utterly ineffectual. He describes the methods by which the exact localization of these tumors has become possible. A point of interest to the general practitioner is the fact that intracranial pressure can be reduced by the administration of large doses of salt. The "pressure headaches" associated with hydrocephalus can thus be relieved. Of course, this treatment only applies where the intracranial pressure is due to fluid.

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Dr. Langmead's article on Rickets is a valuable addition to our knowledge of the subject. The most recent observations do not encourage the belief that it is due to defective feeding; it is regarded more as the result of too limited air space and lack of exercise. It appears to be due less to the absence of lime than to the deficiency of phosphates. Excess of carbohydrates favors the condition, especially if there is lack of sunlight and exercise. Codliver oil and sun-baths appear to have a great curative influence.

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Dr. Hutchison points out (Gastric and Duodenal Ulcer) that x-ray diagnosis of ulcer is not yet infallible, and the evidence of the radiologist has to be considered in its relation to the clinical history and symptoms. After all has been done, it may be necessary to resort to laparotomy to come to a definite decision. The use of caustic soda in the treatment of both, gastric and duodenal ulcer appears to be an important advance in therapeutics. It acts not only as an antacid, but by arresting the action of ferments and also by slightly cauterizing the ulcer. Glaessner gives 2 oz. of a 0.2 to 0.4 percent solution of NaOH in peppermint water every two hours. He obtained good results, although no special diet was observed and the patients were not kept at rest. (A solution of 0.4 percent represents 35 gr. to the pint.)

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In the article Eye, General Therapeutics of, attention is called to the harm which results from the too frequent repetition of local remedies. This is in keeping with the line of thought which is gaining ground in reference to the action of most therapeutic agents, especially vaccines. The time for repetition appears to be when the remedy has exhausted its effects; otherwise the natural processes which make for recovery are not able to take place. There is much in this view to commend it. In the case of the eye, the prolonged use of atropine may set up a conjunctivitis, and the conjunctiva can be rendered black by the prolonged use of silver salts. Even dionin may increase the corneal opacities and thickening of the conjunctiva if it is given too frequently. In the treatment of trachoma, acriflavine appears to give the most satisfactory results. The technic of its use is explained in the above article.

We all know that headaches are frequently caused by ocular defects, but it is rather a novelty to use the form of the headache as a means of diagnosing the ocular error. J. A. Kearney tells us that frontal or supraorbital headache indicates hypermetropia, occipital headache an imbalance of the external ocular muscles, and temporal headache an astigmatic error.

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The article Pregnancy, Disorders of, contains some valuable suggestions respecting the treatment of puerperal eclampsia. It is pointed out that it is easier to prevent than to cure this condition, and that when it occurs prompt removal to a hospital is desirable. One elementary point in treatment is starvation, nothing being given except water. The vomiting of pregnancy is regarded by Oldfield and others as a neurosis rather than a toxemia, and is treated on this line by giving the patient ordinary diet, aperients alone being used as remedies. Such patients are best treated in a nursing home.

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In the treatment of measles, calcium sulphide in ½-grain doses has been recommended by E. Rice, who finds it gives prompt relief to the catarrhal and cutaneous symptoms.

USES OF PARAFFIN-WAX DRESSINGS

From the *Journal A. M. A.* (Aug. 18, p. 548), we reproduce the following case histories reported by L. D. McMillan, Onaway, Mich.

Case 1.—V. R., a girl, aged 8, was scalded by boiling water during the spring of 1922. The wound had healed with much cicatrization of the elbow and the adjacent portions of the arm, and with almost complete fixation in flexion of the elbow. May 7, 1923, I removed about a square of scar tissue contiguous to the healthy skin, and dressed the wound daily with surgical paraffin (Parresine—Abbott), after the usual method used for burns. The defect filled in and became smoothly epithelialized in two weeks. Under general anesthesia, I then removed the main portion of the scar over an area of 20 square inches, including the anterior surface of the elbow, thus severing the tissue fixing the elbow and allowing the arm to be straightened and splinted in full extension. In two weeks, most of the defect was filled in and epithelialized. The splint was then removed and the same treatment applied on alternate days without the use of splints. In three weeks, healing was completed. Although the area treated was discolored, the surface was smooth, there was no contracture, and the child had recovered full use of the arm.

Case 2.—W. P., a man, aged 50, had five varicose ulcers of the leg, varying in diameter from 3 mm. to 2 cm. The anterior surface of the lower leg was erythematous and oozing in two places. There was a systolic murmur at the cardiac apex, not transmitted, and slight cardiac hypertrophy. The Wassermann reaction was negative. The blood pressure was 115. Treatment consisted of rest in bed, a preparation of digitalis, graduated exercises, and daily application of surgical paraffin to the leg, after the method used for burns. The largest ulcer was filled in and epithelialized in two weeks, the others in three weeks, at which time erythema and oozing was nearly absent. The patient was then furnished with an elastic bandage and discharged with directions to refrain from work or other than the lightest exercise, for several weeks. He again returned after four weeks, having resumed light farm work immediately following discharge. Erythema and oozing were completely absent, and the leg, aside from slight discoloration, was entirely healed. This case is notable, as the patient reported that the erythema was of twenty years' duration, and that several physicians had failed to clear up the ulcers by the classical methods of treatment.

I have used this dressing with remarkable cosmetic effect after a large abscess and subsequent sloughing of the face.

ALIMENTARY GLYCOSURIA AND THE NEUROVEGETATIVE SYSTEM

At a recent meeting of the French Biological Society (*Gaz. des Hôp.*, July 3 and 5, p. 854), Doctors Santenoise and J. Tinel referred to numerous tests for alimentary glycosuria which they had made on subjects whose kidneys and livers were normal and who did not present any functional symptoms that might be referred to the thyroid. They have condensed their observations in the following conclusions:

1.—Patients with marked vagotonia tolerated glucose remarkably well, while the hypovagotonics showed glycosuria after relatively small doses.

2.—If the quantities of glucose that are ingested are varied, it appears that a certain parallelism is noticeable between the intensity of the oculocardiac reflex and the appearance of the alimentary clycosuria.

3.—In subjects like maniacs, *les anxieux*, and in epileptics, who showed rhythmical variations in their vagosympathetic tonus, one observes parallel and evident variations in the glucose toleration.

4.—The variations in the vagosympathetic tonus, which are produced artificially by pharmacodynamic agents, give rise to like results. The authors have produced glycosuria in twelve subjects by injections of atropine (atropine glycosuria).

5.—Inversely, by exciting the vagus with eserine, they have seen the level of glucose toleration frankly elevated.

6.—Having observed in animals that insulin is an excitant of the parasympathetics, the authors raise the question whether the action of insulin does not, in a certain measure, stand in relation to this effect upon the neurovegetative system.

Among the Books

ABDERHALDEN: "ARBEITS-METHODEN"

Handbuch der biologischen Arbeitsmethoden. Unter Mitarbeit von 500 bedeutenden Fachmännern herausgegeben von Geh. Med.-Rat Prof. Dr. Emil Abderhalden. Berlin und Wien. Urban & Schwarzenburg. 1923.

Abt. V, Methoden zum Studium der Funktionen der einzelnen Organe des tierischen Organismus, Teil 5 B, Heft 1.

Zentralnervensystem. Viktor Kafka, Technik der Lumbalpunktion. Viktor Kafka, Methoden zur Untersuchung des Liquor cerebrospinalis. Mit einem Beitrag von Otto Schumm, Spezielle chemische Methoden. Ernest B. H. Waser, Methodik des Wärmestiches.

Kafka's discussion of the technic of lumbar punction and also of the examination of the cerebrospinal fluid includes everything of value that has been determined to date. In addition to technic and methods, the various substances for the presence of which the cerebrospinal fluid is examined, find consideration. Thus, we have tests for hemoglobin, bilirubin, nitrogen, urea, grape sugar, acetone, acetic acid, ethyl alcohol, acetaldehyde, chlorine, phosphoric acid, sulphuric acid, potassium and sodium. Naturally, these methods interest particularly the laboratory technician. However, the student-physician will also be interested in looking up these methods, at least in a medical library, even though the purchase of the entire work may entail too great an expense to be justified for the general practitioner.

Abt. V, Teil 5 B, Heft 2. Wilhelm Trendelenburg. Methodik der Physiologie des Zentralnervensystems von Wirbeltieren.

Trendelenburg's physiology of the central nervous system of vertebrates describes the methods and technics employed for determining the mechanism of the special senses and functions. It is extremely interesting for those who desire to understand normal physiology thoroughly in order to appreciate its deviation which are studied in pathology.

Abt. V, Teil 7, Heft 3. Untersuchung der Sinnesorganne. Jakob Katzenstein (†), Methoden zur Erforschung der Tätigkeit des Kehlkopfes sowie der Stimme und Sprache. Erich M. v. Hornbostel, Phonographische Methoden. H. Zwaardenmaker, Methoden der Untersuchung des Geschmackes und der Geschmackstoffe.—Prüfung des Geruchsinnes und der Gerüche. Adolf Basler, Methoden zur Untersuchung der Hautsinne.—Karl L. Schaefer, Untersuchungsmethodik der physiologischen Schallübertragung aus der Luft auf das innere Ohr.

The contributions of the investigation of sensory organs which are contained in this fascicle are the following: Jacob Katzenstein (deceased): Methods for the Investigation of the Function of Larnyx, also Voice and Speech. Erich M. v. Hornbostel, "Phonographic Methods. H. Zwaardenmaker, Methods for the Investigation of Taste and Flavors. —Examination of the Sense of Smell and of Odors. Adolf Basler, Methods for the Examination of Cutaneous Senses. Karl L. Schaefer, Methods for the Investigation of Physiological Transmission of Sound From the Air to the Inner Ear."

These titles will give a sufficient idea of the scope of this fine book.

BRUGSCH UND SCHITTENHELM: "LABORATORIUMSTECHNIK"

Klinische Laboratoriumstechnik. von Prof. Dr. Theodor Brugsch und Prof. Dr. Alfred Schittenhelm. Zweite, vollständig neu bearbeitete Auflage. "Technik der Speziellen Klinischen Untersuchungsmethoden". 1 Band. Mit 310 Abbildungen im Text. Berlin und Wien: Urban & Schwarzenberg. 1923.

The contents of this first volume of the "clinical methods" comprise mensuration; determination of the total quantity of blood, of hemoglobin and of the volume of cardiac activity; kymography; pneumography; Roentgenologic methods; bacteriologic methods and immuno-diagnosis; the most important pathological histologic examinations; optic methods of examination; study of metabolism.

It will readily be seen that this treatise is very complete and that the clinician, as well as the laboratory technician, will find in it information on the latest methods that have been proved of service for the investigation of disease and the study of patients. There is a great amount of information collected in this volume, most of which, to be sure, is in too great detail for the general practitioner. The clinician and the student will find this work indispensable.

LIEBESNY: "PHYSIOLOGISCH-KLINISCHE METHODIK"

Einfuhrung in die physiologisch-klinische Methodik für Studierende der Medizin. Von Dr. Paul Liebesny, Wien. Mit 79 Abbildungen im Text und einer farbigen Tafel. Berlin und Wien: Urban & Schwarzenberg. 1923.

In contrast to the large treatises announced in the foregoing paragraphs, the little book by Liebesny and the one by Kloss and Hahn (to be mentioned later) constitute condensed statements of the various methods to be employed in a form in which they are of service to the practitioner. Liebesny's book deals with the examination of the blood; of the circulation; of heart and lungs; of the digestion, including gastric juice and test meal; the urine; the modalities of electric apparatus employed in electrotherapy; physiological demonstration on the frog; the nervous system; the senses of hearing and of equilibrium; the sense of sight. The book is small and handy and suitable for the general practitioner who reads German.

KLOSS & HAHN: "KLINISCHE LABORATORIUM"

Taschen-Lexikon für das klinische Laboratorium. Von Dr. Karl Kloss und Dr. Leo Hahn. Zweite, erweiterte und verbesserte Auflage. Mit 18 Textfiguren. Berlin und Wien: Urban & Schwarzenberg. 1923.

This little compendium is intended for rapid reference giving concise and brief information on various methods of laboratory investigation. It is undoubtedly very useful.

PATTEE: "PRACTICAL DIETETICS"

Practical Dietetics with reference to Diet in Health and Disease. By Alida Frances Pattee. Fourteenth Edition. Completely Revised. Mount Vernon, New York: A. F. Pattee, Publisher. 1923. Price $2.60.

Any book that makes its appearance in a fourteenth edition has proved its right to exist. Pattee's "Practical Dietetics" is in constant use, not only as a textbook in nurses' training schools, in medical services of armies elsewhere, but also with physicians. Its teachings are those that have been found most serviceable. A full index makes reference to the text easy.

With each volume, a separate "Teachers Dietetic Guide" is given gratis. This contains the state board requirements in dietetics and state board examination question. It will be useful for those preparing for state board examinations.

"TUBERCULOSIS DIRECTORY"

A Directory of Sanatoria, Hospitals, Day Camps and Preventoria for the Treatment of Tuberculosis in the United States. Compiled by the National Tuberculosis Association. 370 Seventh Avenue, New York. June 1, 1923.

In 1904, when the first tuberculosis directory was published by the Committee on the Prevention of Tuberculosis, of the New York Charity Organization Society, there were, in this country, three state sanatoria. The present directory lists 58. In 1914, there were available less than 8,000 beds for tuberculosis patients. Today, there are over 66,000.

The present edition of the directory contains a list of tuberculosis sanatoria, hospitals, day camps and preventoria. It is useful not only to the tuberculosis physician but also to the general practitioner who frequently has occasion to inquire into the existence of sanatoria in certain parts of the country.

The little book is distributed to the members of the National Tuberculosis Association to which all medical practitioners should belong.

"MATERNITY CENTER ASSOCIATION"

Maternity Center Association of the City of New York. A report on the work that it has accomplished from April 1918 to December 1921, in the matter of prenatal care.

We may have our very definite ideas about prenatal care which physicians claim as coming within their own province. This is very fine and true, theoretically. Practically, however, it does not work out—for the simple reason that but very few women consult a physician as soon as they know that they are pregnant and still fewer can be induced to remain under the physician's supervision during the entire period of pregnancy. All these naturally belong to those strata of society that are financially able to remunerate their physicians.

Prenatal care is just as important among the socalled lower classes, among people to whom a visit to the physician entails a financial sacrifice that they can not make often. Unfortunately, it is among them that pregnancies are relatively far more frequent than in the other classes. It is here that social service organizations have to step in and provide those facilities for care that the pregnant women and the new-born babies need. The service that is necessary can not, in fact, be given by physicians alone or by physicians with the aid of nurses. In its practical work-

ings, several agencies are required, namely, lay organizations, public health official, public health nurses and the great body of private practitioners of medicine. These four main groups should first of all thoroughly understand each other and then they should pull together strongly. The result of such cooperation would be a triumph of public health effort over preventable disease; in this particular case over the hazards of pregnancy and childbirth.

"INTERNATIONAL MEDICAL ANNUAL"

The International Medical. A Year Book of Treatment and Practitioner's Index. Forty-First Year. 1923. New York: William Wood and Company.

The Reviewer ventures to say that, out of any number of physicians who will take half an hour or an hour to examine this latest volume of the "International Medical Annual," or one of the preceding volumes, for that matter, there will hardly be one in ten who will not want to own the book for constant reference. It is an annually recurring surprise and pleasure. The reviews of the preceding year's publications, the statements of currently-accepted opinions, the presentations of facts, and many other things—all combine to make this single volume a source of information that it would be hard to duplicate.

In order to offer to our readers a few specimens of the mass of information contained in this book, we have prepared an excerpt of the editor's introduction which will be found on page 000 of this issue of CLINICAL MEDICINE.

FINCK: "GIRTH CONTROL"

Girth Control. For Womanly Beauty, Manly Strength, Health and a Long Life for Everybody. By Henry T. Finck. New York and London: Harper & Brothers. 1923. Price $1.75.

The author offers as a basic proposition, which can be accepted without discussion, that correct eating will not only prevent obesity but will also cure it. The question is only what constitutes correct eating. The answer to that, it may be submitted, includes not only the kind, quality and quantity of food but also the manner in which the food is ingested. Indeed, the author impresses it upon his readers' minds that the manner in which the food is ingested is really the most important part of eating.

According to the author, modified fletcherziation of food is correct, but it isn't the only thing. You must not be content with getting the enjoyable taste out of your food by proper mastication and insalivation, but you must get the flavor as well as the fragrance of the food, and this is far more important than the mere taste. In fact, the olfactory enjoyment of food and, in consequence, the olfactory benefit are of greater moment than the taste. According to the author, people whose sense of smell is impaired are deprived of nine-tenths of their possible pleasures of the table. People very often are indifferent to food; possibly owing to ill health, worry, blues, over-atigue, bad cooking; but, when the person is normal and, nevertheless, indifferent to food; the reason why is that he is anosmic, or smell-blind, so to speak.

The author calls flavor the odor of a substance as perceived in breathing *out* through the nose, while we are eating, and usually accompanied by a sweet, salt, sour or bitter taste. Flavor is distinguished from fragrance, which is perceived in breathing *in* through the nose and the sensation of fragrance is not accompanied by the taste (sweet, salt, sour, bitter).

Mr. Finck's book is quite readable and contains much, very much, that is excellent. Sometimes he overdoes his attempts to attract by using popular language and occasionally he is guilty of what the Germans call *Effekthascherei*, a word that it is difficult to translate, meaning, literally, straining after or grasping for effect.

Perhaps the most reassuring thing for those who wish to control their girth downward is the chapter headed (p. 96) "Eat Anything You Like" and also the subhead (p. 99) "Verboten is not necessary": It is gradually coming to our consciousness that the distressful, cumbersome and vain "dieting" for curing obesity or its reverse are useless for several reasons. For one thing, the dietary orders are never obeyed conscientiously. For another, they do not accomplish their purpose, inasmuch as it is not so much the kind of food that determines obesity or leanness as rather the manner in which food is partaken of. To be sure, there are other etiological factors at work, among which the normal or abnormal function of the endocrines must be enumerated as a matter of course.

As a whole, we have enjoyed reading the book. It contains many sensible and excellent lessons and much wholesome advice. Doctors can not fail to derive benefit from

reading it and many of them will find some things that are new to them, even as did the Reviewer.

HIRSCH: "KURZSICHTIGKEIT"

Die Kurzsichtigkeit. Das Tuberkulin und Seine Anwendung. Von Dr. George Hirsch in Halberstadt. 2nd edition. Published by the author.

Doctor Hirsch informs us, in a letter, of his long-continued daily observations to the effect that a considerable portion of diseases of unknown nature is caused by tuberculotoxins that are developed in a latent focus. These ailments may assume the characteristics of definite diseases and usually resist therapeutic measures, unless the connection of the etiology with a tubercle-bacillus infection and a corresponding intoxication be taken into account.

Cases of "clinical rheumatism," of some forms of obscure digestive disorders, even of epilepsy and numerous other nervous disturbances are on record in which treatment with a tubercle-bacillus vaccine brought prompt relief.

According to Doctor Hirsch, myopia and other eye diseases, for instance, strabismus, may be due to a tubercle-bacillus intoxication. He has succeeded frequently to cause amelioration and even cure by treating his patients with a tuberculin preparation, especially with the Tuberculin Acoin which he has developed. Acoin is dipara-anisyl-monophenetyl-guanidin. It is a local anesthetic and an effective antitoxic. He employs it in combination with cyanate of mercury in order to prevent suppuration or inflammation after cataract operation.

His combination of tuberculin and Acoin is, according to Doctor Hirsch, eminently useful. It has received the approval of many prominent tuberculosis physicians in Germany.

WAGGONER: "ELECTROTHERAPIST"

The Note Book of an Electrotherapist. By Mel. M. Waggoner, M. D. Illustrated, Chicago: McIntosh Electrical Corporation. Price $5.00.

Doctor Waggoner claims that there is hardly a disease condition in which electricity is not indicated, either as an adjunct or an actual curative measure, for the reason that with it we can produce mechanical, chemical and thermal changes. These, he continues, are the three main weapons that nature uses in her attempt to maintain function. First, she must raise the temperature of the affected parts. If it is local, we call it inflammation; if general, fever. By so doing, she increases chemical activity. She then hastens the circulation (mechanical) in order to drain the decomposed product away.

Waggoner refers to the enormous development of the last few years of electrotherapeutic technic which is responsible for the fact that present-day literature is hopelessly behind and, yet, real technic spells the difference between success and failure.

The author has attempted to remove the cloak of mystery from the application of electricity so that this can be undertaken rationally and, therefore, successfully. He discusses fundamentals of electricity—naturally, a basic study without which electrotherapeutics is impossible. The bulk of the book is taken up by the practical application of the electric modalities. It is freely illustrated and impresses us as a useful guide.

[*Concluded from page 752.*]

not allow the head to come in contact with a lighted gas jet or flame of any kind. Let the head remain covered over night. In the morning, wash the scalp well with hot, soapy water. Rinse the hot water and dry thoroughly. When dry, wet the hair with hot vinegar and comb with a fine tooth comb wet in hot vinegar. This latter may remove some of the nits, but the best way is to go over the hair an strip the nits from the hair, using the thumb and finger. This treatment should be repeated every day for three days.

It will be necessary to clean up the hats or caps of the children; also the bedding they have been in contact with. This prevents further infection.

Of course, it goes without saying that regular scrubbing of the head with hot soap and water is the best preventive for this condition.

We believe that the last bit of advice given by the *Bulletin,* namely, regular scrubbing of the best way is to go over the hair and strip useful that can be given. Absolutely clean heads may become temporary visiting grounds for lice. However, these will not stay there, providing that the heads are kept clean.

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Thanksgiving

By Charles Hanson Towne

Lord, I give thanks!
For the green gospel of the grass,
And the white billowy clouds that pass;
For the wide world's great loveliness,
And the rain's healing hands that bless
The fevered meadow and the road
Whereon is set my still abode.
I thank Thee for the quiet moon,
Long shadows in the afternoon,
For the great peace the blue sky knows,
And the red raiment of the rose;
For the soft tumult of the leaves
In Autumn, on my haunted eaves,
And the clean stars on wind-blown nights,
And all the little village lights
That smile at me through Winter's dark—
Each one a human, tender spark.
For apple-orchards, white with May
On many a far, sequestered way;
For the deep patience of a pool
Within a forest beautiful.
I thank Thee for all simple things
Beyond the glory of high kings:
For goodly books to read at night
In the sweet peace of candle light;
For bread to break, a child to kiss;
And O, dear God, for this—for this:
The love of woman that shall last
Till Time itself, and Life, have passed.
And, as the long, bright journey ends,
Lord, I give thanks for many friends.
Amen.

—*Woman's Home Companion*, Nov., 1922.

GOOD BUSINESS

In one of "Babson's Views on Business", which I saw, the other day, in a Chicago paper, he discusses the contradictory state of affairs that, with all the tremendous amount of gold in the country and with new gold constantly being mined, there seems to exist so serious a shortness of funds in many places and there should be calls for banks to issue additional currency. As a matter of fact, Mr. Babson assures us that there is an abundance of money in the country for all legitimate needs. The only difficulty is, that too much of it is being used in illegitimate ways and too much is being hoarded in sections where it is not being needed. Eliminate special and unreasonable storage and there will be money enough for every legitimate need in every line of industry.

While the prevailing speculations in stocks and commodities must influence the credit system, Mr. Babson does not believe that it accounts for the clogging that is being witnessed. Of the various reasons advanced, he believes the fundamental difficulty to be due to the fact that people are not paying their bills. "Ever since the decline in business which began a few months ago, there has been a tendency for manufacturers, jobbers, retailers and consumers to slow up in their payment of bills. Of course, the whole thing is an endless chain. Just as soon as one link stops, the entire chain must slow down. Yet, there is absolutely no reason for such action. It is a psychological, or moral, condition rather than an economic condition. Business and the flow of money are like the flow of blood in one's veins. Anything which retards circulation harms every one."

Mr. Babson refers to the fertilizer business which, as a business, is perfectly sound but is yet in difficulties because of the fact that the farmers are buying fertilizer on credit and are not paying their bills. By contrast, the chain stores are very flourishing, because they are doing a cash business. They have no accounts receivable and are able to discount their bills and carry large cash balances.

"In the case of almost every corporation, the credit policy is an important factor, and any investor buying securities today should give it careful consideration. This is especially true today when industrial stocks are so much more popular than railroad and public utility stocks. Notwithstanding their troubles, the railroads and public utilities do a cash business. This applies not only to transportation companies but also to lighting and telephone companies.

"All of this means that one of the best things we can do to bring prosperity is, to pay our bills promptly. Moreover, this applies to wage workers as well as employers; to retailers as well as manufacturers; to people in small country towns as well as to people in the large cities. The little bills must be paid before the big ones can be paid. Before the manufacturer can pay his bills, the wholesaler must pay the manufacturer; before the jobber can pay the wholesaler, the retailer must pay the jobber, and before the retailer can pay the jobber, you and I must pay him. Prompt settlement will do much toward keeping the business from going lower. The Babson chart now shows it at 10 percent below normal."

Apply It to Doctors

All this is by no means new and we ourselves have said it before. In general business life, doctors are considered slow pay and, very often, they are. The reason is so evident as hardly to require mention. The doctors can not discount their bills because they do not have the available funds, since their clients keep them waiting for months and years before discharging their debts. In consequence, a medical practitioner very often can not count on certain sums coming in and can not make provision to take care of his own expenses promptly. Happy is that physician who can finance his affairs in such a way as to pay all his bills in the first ten days of each month. He has one less worry and is, therefore, in a measurably better condition to attend to his patients.

It seems to me that it would be a mighty good stunt for each medical practitioner to bend every effort to get so much ready cash on hand that all current bills can be paid in the first week of the month. During the balance of that month, enough money will come in to take care of the next checking day. It can be banked in the meanwhile and if, after all bills are paid, there is a surplus, a proper portion of it should be banked or invested. This might be done if the patients were educated gradually to viewing their relation to their doctor in a business sense as well as in a personal light.

Office charges should always be paid cash; so should bills for confinements and for operations that can be prepared for. Services rendered to patients afflicted with chronic diseases should be charged for monthly, unless cash is paid on each occasion, and the bills should be paid promptly.

It is only bills incurred for emergencies or for attacks of acute disease that require special financing, because they are unforeseen. In such a case, the doctor can quite properly ask his client what he proposes to do about his bill and how he intends to liquidate it. There are few people who can not be talked to and who will not understand that it is to their own interest, to the interest of the community and of everybody concerned, that the doctor should have the money with which to pay his own creditors and that he can receive it only if his debtors deal fairly with him.

Our present credit system is a wonderful institution. It is an able servant and a remarkable aid. However, if it is abused, it becomes a merciless master and accounts for many concerns and many medical practitioners going to the wall financially.

Do not permit your patients to abuse the credit which you extend to them, Doctor. Have a frank heart-to-heart talk with each of them. They will think all the more of you if you not only do your best as their physician but also insist that they shall do their share. Make them realize that the relations of physician and patient imply just as much prompt payment of doctor's bills as they imply prompt rendering of doctor's services.

THE RED CROSS ROLL CALL

During the period between Armistice Day and Thanksgiving Day, November 11 and November 29, the American Red Cross will hold its annual Roll Call when membership in the Red Cross may be renewed and new members be enrolled. The Red Cross confidently expects all present members of the organization to repeat their former subscriptions to its funds or even to increase them. It is also desired that many new members may be gained, for the reason that the income derived from membership dues is urgently needed for the work of the organization.

It is hardly necessary to say anything about the essential necessity of such an organization as the American Red Cross. Its work during the war spoke for itself. Since then, even as had been the case before the war, it has responded promptly and efficiently to all calls of urgency, not only within the confines of our own country but abroad. Immediately on receiving word of the recent disaster in Japan, the Red Cross mobilized its forces to carry first aid and supplies to the distressed people on the other side of the Pacific Ocean. Wherever serious disasters have occurred, the American Red Cross has offered and extended its services.

In our own country, the Red Cross activities are diversified and as useful and successful as they are numerous. Two articles in this issue of CLINICAL MEDICINE describe some of the work that is accomplished by this organization. They show how much good is done by the Red Cross and bear witness to the extent to which it merits general and whole-hearted popular support.

By virtue of their position in the general scheme of things, we hold that physicians should *eo ipso* be members of the American Red Cross. Even though your membership fee may be only $1.00, it will accomplish one hundred cents' worth of good. Do not fail to contribute at least that much as your part in the great work of the American Red Cross. If you can make it $5.00, or $10.00 or $20.00, so much the better. But let it be at least the small sum of one dollar.

THE TUBERCULOSIS CAMPAIGN

It is a little over ten years ago that Doctor von Pirquet, then of Vienna, proposed the diagnostic test for tuberculosis infection which has become generally known by his name. The far-reaching application of this test disclosed the astounding and serious fact that from 75 to 90 percent of all children who had reached the fifteenth year of their age were already infected with the tubercle bacillus. These findings confirmed the conclusions that had been announced by Nægeli, some years earlier, referring to the widespread tuberculization of civilized people—conclusions which had been based upon autopsy material and had been confirmed by various research workers.

The fact that, in the hospitalized and the dispensary population of Vienna, 90 percent of children of fifteen years of age reacted to the skin test, 75 percent in Geneva and Paris, upward of 50 percent in Berlin, showed that the tuberculosis problem was even more important than its most enthusiastic supporters had believed. It would not do merely to say, "Tuberculosis, being due to the tubercle bacillus, is communicable; hence, it is preventable. Simply prevent infection, and there you are." This conclusion, simple as it seems, contained in it untold difficulties.

Fortunately, not every one who harbors tubercle bacilli in his organism acquires tuberculosis. The difference between tuberculosis infection and tuberculosis disease is marked. Still, the campaign against tuberculosis as a disease of the masses very naturally turned on the pivot of delimiting and rendering innocuous the tuberculosis infection. This was one of the outstanding tasks that the National Tuberculosis Association had set for itself.

This Association is engaged wholeheartedly in its special work and has been so engaged since its organization, in 1904. We have just received the Nineteenth Annual Report of the Executive Office of the National Tuberculosis Association which contains an encouraging account of the work.

"In the registration area of the United States, the death rate from tuberculosis, in 1900, was 202 per 100,000; in 1910, 160; in 1920, 114; in 1921, 99; and in 1922, preliminary indications show that it will be approximately 100. In the great metropolitan district of New York, the diminution in the death rate has been even more striking. It was 280 in 1900, 210 in 1910, 126 in 1920, 103 in 1921 and 99 in 1922. It is believed that this remarkable fall in the death rate has been due primarily to the antituberculosis campaign, but no one can estimate the proportionate amount due to the measures taken to destroy the tubercle bacilli the moment they leave the human body and to those other measures recommended and adopted which have improved the health of the individual. It has been assumed that from 75 to 90 percent of all children of fifteen years of age were already infected with the tubercle bacillus. Recent evidence has been offered by Dr. Charles Hendee Smith of New York City, who has examined 3500 children and performed the tuberculin test both by the Pirquet method and the intradermal method and has found that less than 40 percent of the children reacted at the age of fifteen, and these were children in attendance at the Bellevue Hospital Dispensary, who come largely from the indigent class in a great metropolitan city. There is no doubt that this group of children represents a district more highly infected than one would find throughout the country as a whole.

"This is in marked contrast to the 90 percent of children of fifteen years of age reacting in Vienna and 75 percent in Geneva and Paris. This is a definite indication that there is less infectious material in New York City than in continental cities. Results very similar have been reported from St. Louis and Philadelphia, 48 percent and 35 percent respectively.

"The executive office is convinced that the present campaign and the activities of the various associations are based on sound scientific grounds and that the results speak for themselves."

The fact that only 40 percent of children of the dispensary population (at the age of fifteen) are now found to react to the Pirquet test stands in striking analogy to the reduced tuberculosis mortality. It indicates that the tuberculization of the urban population is less general now than it was even ten years ago and it affords stimulus and encouragement for further and continued effort.

The National Tuberculosis Association now consists of only 3300 individual members, many of whom are not physicians but laymen. It seems to us that, of the 150,000 medical practitioners in the United States, at the very least 50,000 should be members of the National Tuberculosis Association, because surely there are at least that many for whom the tuberculosis problems are urgent and of outstanding importance.

The Nineteenth Annual report contains much information of great interest. It can be obtained from the secretary of the Associa-

tion (370 Seventh Ave., New York City) and we hope that many of our readers will procure it and will be stimulated to join the Association as active members.

CHRISTMAS SEAL SALE

In accordance with its established custom, the National Tuberculosis Association will soon inaugurate this season's sale for the Christmas Seal stamps which, as is generally known, are sold for the benefit of the antituberculosis campaign. The proceeds from this sale, recurring every year, are considerable and afford much-needed funds for the multifarious activities of the various agencies that are concerned in this antituberculosis campaign.

As may be seen, in another article in this issue of CLINICAL MEDICINE (p. 784), the efforts that have been put forth by the National Tuberculosis Association and by all allied forces have not been in vain. The tuberculosis mortality has been reduced by one-half in the course of something less than twenty years and there are potent and convincing indications that permit us to conclude that even the more or less general tuberculization, that is the infection with tuberculosis germs, is no longer as widespread as was the case at the beginning of this century.

Whether this lessened tubercle-bacillus infection is an unmixed blessing or not, must be left to students of immunity to decide. It might be pointed out that an initial infection, successfully overcome so that it does not lead to disease, produces a degree of immunity that protects its bearer against ordinary epidemiologic infection and thus against the acquirement of clinical tuberculosis. It might be argued, therefore, that the widespread removal of opportunity for infection might create a generation of the race that would be "virgin" with respect to the tubercle bacillus and would, therefore, be far less resistant to an accidental exposure to infection. This is a theoretical consideration which need not deter us from supporting the sale of the Christmas Seal stamps as cordially as in previous years. There is still much active tuberculosis prevalent and so much opportunity for unfavorable and virulent infection that the problem, and the tasks that are included in the work of the National Tuberculosis Association, will not be solved for many years to come. For this reason, the Association merits the cordial support of physicians the country over. We should not only purchase these stamps generously, but we also should join the National Tuberculosis Association and take part actively in its remarkable work.

Poverty is very good in poems, but it is very bad in a house. It is very good in maxims and sermons, but it is very bad in practical life.—Henry Ward Beecher.

THE MODERN TREATMENT OF DIABETES MELLITUS

[Physicians the world over are very naturally keenly interested in the endocrine treatment of diabetes mellitus, which has recently been elaborated by Doctor Banting and his associates in Toronto, Canada. While, in all probability, "Insulin", which is the preparation under consideration, is not the only one that is capable of producing beneficial results, since other endocrine preparations have been employed to advantage, it, Insulin, just now enjoys the greatest popularity among physicians. There exists a general demand for it and many practitioners are keenly disappointed when they learn that this remedy can not be administered by rule of thumb but that it requires great care and watchfulness which are made possible only through special study. As a matter of fact, Insulin, or Iletin, as the product made in the United States (Eli Lilly & Co., Indianapolis, Ind.) is called, is not given free but may be employed only by those physicians who have demonstrated their ability to use it.

It is but natural that physicians should be anxious for opportunities to fit themselves for this special work and it is to be hoped that such opportunities will be created in many hospitals. One such undertaking is announced in a letter issued by the University of Wisconsin Medical School, which is directed to Wisconsin physicians but will interest physicians elsewhere as well. We reproduce it expressing the sincere hope that this work will be duplicated in other states in the Union.—ED.]

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The use of Insulin in the treatment of diabetes mellitus is now on such a well established footing that it should be carried on by every practitioner who cares to familiarize himself with the technical details. Yet, there are many members of the profession who have tried this new addition to therapy and have been disappointed because results were not as reported in current literature. This is

not due to any fault in the pancreatic extract. It has now shown a degree of permanence and a uniformity in results which are highly gratifying. The difficulty encountered by most men has been in a lack of familiarity with the details which are so essential to success. This does not reflect on the intelligence or the training of the profession, for the use of the specific pancreatic extract is less than two years old, and the definite advances in dietetic control, which are equally important, are little older.

The clinical staff of the Wisconsin Medical School has been using Insulin for treatment of the different types of diabetes mellitus and for research work, for nearly a year past. The staff wishes now to invite the members of the profession in the state of Wisconsin to come in and share the opportunity to study the treatment of diabetes in the Bradley Memorial Hospital. For that purpose, a six-day course of instruction will be given to groups of not more than six physicians at a time. This course will include lectures on the chemistry of diabetes and carbohydrate metabolism, the pathology of diabetes, the dietetic control of the disease, the use of Insulin in the usual types and in the complications and emergencies. There will be a series of classes in the prescribing and calculating of diets, designed to aid the physician in the instruction which he must give his patients. A simple text will be used and practice in working out diets will be carried on under the hospital dietitian. Laboratory methods of blood and urine examination will be demonstrated, and the simpler ones practiced. The visiting physicians will make daily visits to the diabetic patients in the hospital, observing the detailed handling of each case.

The cases treated here have come from various parts of the state. They have been referred back to local physicians for continued treatment. A limited number of cases will continue to be accepted for the treatment. The difficult types are especially desired. Needy cases for study are accepted as far as possible. It is necessary also to have a certain proportion of self-sustaining cases. $5 per day provides for all medical attention, nursing, board, laboratory fees, and drugs during the stay of latter class of patients in the hospital. Applications for admission should be sent not less than two weeks in advance, to insure reservation of space. Four beds will be held for diabetics. Physicians who desire to have a difficult case selected from their own patients, studied while they are here, should arrange by correspondence for the patient to precede them by two or three days.

There will be no tuition fee for this course. The only charge will be a laboratory fee of $5 for the week. Instruction will begin Monday morning and close Saturday noon. The first course will be given beginning Oct. 3. It will be repeated weekly while the enrollment justifies it. Enrollments will be made in the order of applications, which should be addressed to E. L. Sevringhaus, M. D., at the Bradley Memorial Hospital, Madison. Enrollments may be made in person at the State Medical Society, Meeting in Milwaukee, Oct. 3-5, at the booth of the University Medical School. Every licensed physician in the state is invited to spend a week at the hospital.

Wherever I find a great deal of gratitude in a poor man, I take it for granted there would be as much generosity if he were a rich man.—Pope.

THE TRIBULATIONS OF THE RESEARCH MAN

In his younger years, he had been associated with some of the famous pathologists and medical men of the world.

Now he was reduced in circumstances. He was living alone in a little furnished room, top floor front. The bed was rickety, the floor-covering was threadbare, the neatly kept bureau had, like its user, seen better days.

"If anything were to happen to me tomorrow," he said, "the money I've been able to save only by living in this way, would hold out about three weeks. After that, I'd go to the City Hospital and die like a dog without a single soul at my bedside, and be buried in a pauper's grave."

Here was a man who, in earlier years, had spent freely of his own money, when necessary, without hope of getting it back from the cadaver, the dog, the cat, the monkey, or the guinea pig.

He enumerated over two score of separate and distinct contributions he had made to the world's scientific research knowledge, some of these along very original lines.

He showed testimonials as to his ability written in the handwriting and over the signatures of pioneers whose names will go ringing down the ages.

And now, this.

How different in some other countries! A competent research worker is enabled by the state to pursue his vanguard work without worry or fear of the proverbial wolf, or the human wolf either.

Here, in a land overflowing with milk and honey and money, the research man is fortunate indeed if he receives the hire of an ordinary store clerk. Are his services of less importance to the community and to humanity?

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The foregoing little article appears in No. 1, Series IX of "Notes and Abstracts", which is the well-known publication of Johnson & Johnson, New Brunswick, N. J. We reproduce it with the permission of Johnson & Johnson, to whom we extend our acknowledgment.

The facts of the case are only too true. It happens too often in this country that research workers, and professional men in other lines, for that matter, are sadly underpaid and that they never, or at least but very infrequently, can hope for emoluments that would form an adequate compensation for their many years of study, for their devotion to research, for the sacrifice of time, effort and funds.

Fortunately, it appears as though a juster appreciation of the value of research was becoming manifest. Great industrial concerns of many kinds have research laboratories; the Mellon Institute of Industrial Research, University of Pittsburgh, is maintained by similar concerns; but, still, those research workers who have arrived at the dignity of paying an income tax amounting to even only $100 are few. The great majority receive hardly enough to make it worth Uncle Sam's while to bother them in the matter of tribute.

There is room for improvement right here.

The manner of your speaking is full as important as the matter, as more people have ears to be tickled than understandings to judge.—Chesterfield.

"WHICH SHALL LIVE—MEN OR ANIMALS?"

In Clinical Medicine for September, 1921, (p. 589), we referred to an article which had appeared in *Woman's Home Companion* for July of that year and had been contributed by Mr. Ernest Harold Baynes. It dealt with the truth about vivisection, and showed that the antivivisection propaganda is based on error, many times on deliberate falsehood and that animal experimentation is not only justified but absolutely necessary for progress.

In the current issue of *Hygeia* (October, p. 414), Mr. Baynes has a further article, entitled "Which Shall Live—Men or Animals?" and in which he graphically describes the conquest of bubonic plague which is prevented from becoming endemic in this country through knowledge gained by animal experimentation. Mr. Baynes also speaks about many kinds of experiments on animals through which mankind and the animals have benefited largely, all through the use of living mammals for experimental purposes; in other words, through animal experimentation or, as it so often is called wrongly, "vivisection."

The particular interest of the two articles referred to lies in the fact that Mr. Baynes, who is a naturalist of note, president of the Meriden, N. H., Humane Society, and author of books on animals, formerly believed it wrong to use animals in studies. However, like an honest man, he investigated the work that is actually being done in this field and revised his opinions radically, to the great distress and wrath of the antivivisectionists. Referring to the false stand of the antivivisectionists, Mr. Baynes makes some pertinent remarks which we copy in full. He says:

"We have seen that all these great advances in medicine and surgery have been made as the result of experiments on living mammals and you will agree, I believe, that in all probability further advances in these fields must be brought about by the same means. This is the opinion of practically all eminent physicians and surgeons and veterinarians, and of all the great scientists and educators in other fields—in short, it is the opinion of all persons who have vast responsibilities for the health of men and of animals. The only persons who are opposed to these reasonable experiments are the antivivisectionists, who have no such responsibilities. Would any sane person think of going to the antivivisectionists for help if there were an epidemic of smallpox or diphtheria, or if there were an outbreak of hog cholera or of blackleg in cattle? We don't go to them because they know nothing about such matters. Yet, they boldly contradict all competent authorities and tell us that experiments on animals are useless, that they have never accomplished anything. The antivivisection societies are composed largely of well-disposed but woefully misinformed persons. And those are responsible for the misinformation are the leaders of the antivivisectionists. I have been studying these leaders for some years, and I may say, without any danger of my statements being disproved, that among them may be found many of the most dangerous of the criminal insane to be found in this country today—and I have recently visited some of our largest peniten-

tiaries and asylums. I have found some of these leaders of the antivivisection movement to be guilty of falsehood, slander, libel, perjury, forgery, and attempted bribery. Under false pretenses, they obtain money from weak-minded and unthinking people and, with this money, they willfully and perennially attempt not only to prevent the advance of medicine and surgery, but also to break down the bulwarks of preventive medicine by teaching contempt of vaccination and of the use of antitoxin.

"Few of the criminals in our jails are responsible for the deaths of more than a small number of persons; few of them have attempted widespread destruction of life. But it is the opinion of eminent physicians that, through the pernicious teachings of the antivivisection leaders, we shall in a few years have epidemics that will destroy the lives of many thousands of children. Unless we wish for a return of the plagues and pestilences that once devastated wide areas on this world before the introduction of modern methods, we should use every means in our power to discourage these dangerous fanatics.

"I believe that it is the duty of all good citizens who belong to antivivisection societies to send in their resignations at once, and to stand with our government, our great physicians, surgeons, veterinarians, agriculturalists, educators, and divines in approving and supporting properly-conducted animal experimentation and sane humane education generally."

It may be proper for all to remember that they ought not to raise expectations which it is not in their power to satisfy; and that it is more pleasing to see smoke brightening into flame than flame sinking into smoke.—Johnson.

OUR FAVORITE METHODS

Dr. Edward H. Ochsner's suggestion, that we give each other the benefit of our experiences with some of our favorite methods of treatment that have worked out particularly well in practice, has met with cordial response—in a pickwickian sense. In the October issue of CLINICAL MEDICINE (p. 772), we published communications from three physicians, one of whom was Doctor Ochsner himself. This month, we have none to publish unless we were to fake a few articles. As we have never been particularly fond of fakes, we shall not do so.

This department is strictly up to our readers. If they like the idea (and we do not see why they shouldn't), if they want to read about the favorite methods that are successful in the hands of other physicians, they must themselves get busy and outline their own favorite methods.

It is an old truth, that you get out of life just about as much as you put in. You may belong to a society and never attend meetings, persistently and constantly refuse to serve on committees or to share in any of the work, and then sit back and grouch about the rotten state of affairs. You do not find that the workers in the society grouse. Usually they are wide-awake, lively and cheerful. They give a lot to it. Therefore, they receive much.

Now, then, if you want to read about particularly successful stunts, little "tricks of trade," useful methods, let us have your own. I can not for the life of me see how it is that I have not literally been snowed under with letters in compliance with Doctor Ochsner's splendid suggestion. Let us wake up and get busy!

THE INSULIN TREATMENT OF DIABETES

A correspondent recently asked, "Is not the use of insulin (Iletin) comparatively safe in the hands of the general practictioner? What is the method of balancing the diet against the dosage? Is it mandatory that all such patients have a preparatory course of treatment in a hospital, as is strongly advocated in the trade literature, or is this just a precautionary measure? If so, when will it prove practicable for the general practitioner?"

In replying to our correspondent, whose questions had been put by many others likewise, we gave it as our opinion that the use of insulin is comparatively safe in the hands of the general practictioner ONLY if this practitioner carefully studied the problems involved in the method. We believe that it would be risky for anybody to undertake this treatment without having witnessed its actual operation in a clinic or hospital. Fortunately, courses are being arranged in various hospitals (see, for instance, the announcement on .p. 785 of this issue) and we feel confident that, ultimately, sufficient provisions will be made so that all general practitioners who care to take the trouble can fit themselves to employ this treatment.

It must be kept in mind that insulin is not a remedy that can be given by rote or as a matter of routine. It can not be generally

said that the minimum dose is such and such, and the maximum dose so many multiples of the minimum. As a matter of fact, this question of minimum and maximum doses should not be made to apply to any remedy without taking into consideration the individual peculiarities of the patient and without, in many cases, testing the response or the reactive power of the patients to small and gradually-increased doses.

The employment of drugs has entered a far more deliberate, teleological and, therefore, more successful phase than prevailed in years gone by. It is not so much the question of employing a certain drug in a certain disease but, rather, of determining in what way it is necessary to influence the disturbed physiological functions so as to restore them to normal.

All this requires a special article and we want to return to our muttons, the insulin treatment of diabetes.

The administration of insulin is only one factor in the treatment and, as we understand it, it aims to supply an internal secretion of the islands of Langerhans, which enables the normal organism to take care of the sugar-product of food assimilation but which in diabetics is deficient because of pancreatic disease. In different patients, the internal-secretion requirements will naturally differ. They will also depend upon the nature, quantitatively and qualitatively, of the diet that is permitted.

All these and other considerations necessitate much special study and we wish to insist that the precautionary measures taken by the Toronto laboratory and by the American manufacturers are entirely justified. If insulin were given free, it is to be apprehended that it would soon fall into evil repute because of numerous failures, owing to mistaken and wrong administration. Only those physicians should be permitted to use this potent remedy who have gained the necessary knowledge.

ADULTERATION OF ARSENICALS

The United States Department of Agriculture publishes, among many other things, periodical bulletins entitled "Service and Regulatory Announcements." In one bulletin, issued December last (S. R. A.—Chemical Supplement 146), notice is given of adulteration and misbranding of neosalvarsan. U. S. v. 1047 Packages of Neosalvarsan. Default decree of condemnation, forfeiture and destruction. (F. & D. No. 15786. I. S. Nos. 9807-t, 9808-t. S. No. e-3808.)

"On March 20, 1922, the United States attorney for the District of Porto Rico, acting upon a report by the Secretary of Agriculture, filed in the District Court of the United States for said district a libel for the seizure and condemnation of 1,047, more or less, packages of an article purporting to be neosalvarsan, remaining unsold in the original packages at Caguas, Porto Rico, alleging that the article had been transported into Porto Rico, and charging adulteration and misbranding in violation of the Food and Drugs Act.

Analysis of a sample of the article by the Bureau of Chemistry of this department showed that a portion of it consisted of sodium chloride and that the remainder consisted of sodium bicarbonate, colored yellow with methyl orange.

Adulteration of the article was alleged in the libel for the reason that its strength and purity fell below the professed standard of quality under which it was sold.

Misbranding was alleged for the reason that the statement 'Neosalvarsan' was false and misleading, and for the further reason that the article was an imitation of another article.

On August 1, 1922, no claimant having appeared for the property, judgment of condemnation and forfeiture was entered, and it was ordered by the court that the product be destroyed by the United States marshal."

C. W. PUGSLEY,
Acting Secretary of Agriculture.

It will be understood that arsenicals sold under the name of salvarsan or neosalvarsan are usually imported products, because all American manufacturing chemists, with one possible exception, who market these products issue them under the name that has been made official in the U. S. Pharmacopœia, namely, arsphenamine and neoarsphenamine. It will be safest to prescribe only arsphenamines and to stick to the recognized American preparations.

Sleep, riches and health are only truly enjoyed after they have been interrupted.—Richter.

THE VALUE OF GELATIN IN INFANT AND CHILD FEEDING

We are in receipt of a small pamphlet issued by Charles B. Knox Gelatine Co., Inc., Johnstown, N. Y. It contains abstracts of a report on research work done by Dr. Bogue, Industrial Fellow of the Mellon Institute of Industrial Research, University of Pittsburgh, which treats on the dietary value and physiological action of edible gelatin.

The influence of gelatin on gastric digestion has long been recognized and Eric Pritchard ("The Physiological Feeding of Infants and Children") said, some time ago, that gelatin

is not as much used in infant feeding as its merits deserve. While its food value is not as great as that of albumin, it is a valuable protein sparer and, at the same time, it has the great advantage of being a good acid-fixer. Similar opinions have been expressed by other authorities on the feeding of infants, but it was only recently determined that the value of edible gelatin in infant feeding is due to its colloidal action in emulsified milk curds and to the presence of Lysine, the amino acid which promotes growth.

Dr. Bogue, of whose research mention has been made, states that "The addition of gelatin to the milk in cases of serious malnutrition has been found to be highly beneficial, and to result in a much greater absorption of the milk fed. The milk fat tends in such cases to coalesce into relatively large masses which are quite impossible of digestion in the infant organism, and the amount of fat fed is often reduced to less than 2 percent without greatly improving the case, while any successful attempt at preventing coagulation of the casein is simultaneously reflected by a perfect digestion of the fat. Similarly in adults the ingestion of protective colloids in the form of albumins and gelatin is of the highest importance in maintaining an emulsion of the fats which are ingested, and in that way preventing digestive disorders that would result from the nonemulsification of the fat masses."

Dr. Bogue further states that "although investigations upon this subject have been largely confined to the simple food milk and to its adaptability for infant feeding, the principle of colloidal protection must be of none the less importance in many other foods, and in the normal dietary, as well as in that of the sick room and the preparation of food for infants and invalids. This important phase of dietetics has not been adequately investigated, but there can be no doubt, in the light of what has already been accomplished, that the chemical constitution of a food is only one of a number of factors that must properly be considered in the selection of a dietary."

"If the nitrogen supply is given wholly through the single protein albumin, or fibrin, or gelatin, the unfortunate victim will starve to death. If a perfectly balanced ration of heat sterilized food is given, the same misfortune will result. We have discovered that a single pure protein is usually insufficient. We have discovered the hypothetical vitamins. We have observed that a certain association of foods may react in the body quite differently than a certain other association. And in this field lies the influence of the protective colloid. *In vitro,* there is no colloid that exhibits this property of protection to the degree shown by gelatin, and the value of this substance as a part of the normal diet, especially to those who suffer from poor digestion, is probably far more as a protective colloid and emulsifying agent than as a food, but it functions unquestionably as both."

Do not bare your troubles; bear them.—John S. Campbell.

AN UNUSUAL BOOK OPPORTUNITY

Here is a remarkable opportunity to secure, at a nominal outlay, five books which will not only interest you but will attract, enthuse and stimulate the children (especially those of high-school age) as well.

If you wish to take advantage of this rare chance, send a check for $2.50 to the Prize Essay Committee of the American Chemical Society, Munson Bldg., New York City. This set consists of the following books:

The Riddle of the Rhine (Lefebure)
Life of Pasteur (Vallery-Radot)
Creative Chemistry (Slosson)
Discovery, the Spirit and Service of Science (Gregory)
The Future Independence and Progress of Medicine in the Age of Chemistry.

These same books, bought in any bookstore, would cost $13.00. Mr. Garvan of The Chemical Foundation is distributing them at cost in connection with the prize essay contest being conducted by the American Chemical Society to increase interest in chemistry among high-school students. A set of these books is being sent to every high-school in the country free, but in order to get the doctors interested in the contest and in chemistry, Mr. Garvan is offering it to the medical profession at the price quoted.

I suggest that every physician buy a set of these books for himself. It would be an inspiration to him. Some time, I want to tell you about Garvan's great prize contest, which will carry with it, besides valuable cash prizes to students, an opportunity to win scholarships in Yale, Vassar and other great educational institutions.

Leading Articles

Cancer of the Pelvic Organs

A Lecture Delivered Before the Institute of Nurses of the State of Illinois at Mercy Hospital, Sept. 13, 1923

By HENRY SCHMITZ, Chicago, Illinois

THE propaganda of the American Society for the Control of Cancer has centered the interest of physicians, nurses and the laity upon cancers. There is no doubt that this educational campaign has resulted in great improvement in superficial cancers, chiefly of the skin, the mouth and the breast. Patients afflicted with these malignant diseases seek advice much earlier than formerly, because their attention is attracted early in the disease. The tendency, also, to conceal such afflictions seems slowly to be becoming less and, in its stead, the apparent desire prevails to seek early medical help.

A different problem, however, is presented by deep cancers. In these, it is usually not the growth which attracts attention first but more commonly the secondary effects of the growth; and these latter are usually so insidious in onset and development that the patient fails to appreciate their significance until too late. Also, if the appearance of secondary symptoms induces the patient to seek medical aid, the cancer has already progressed beyond the curative stage in the majority of cases.

Pelvic Cancer Frequent in Women

Malignant disease frequently attacks the pelvic organs of women. The uterus is more frequently involved with cancer than any other organ of both sexes. Welch collected 31,000 cases of cancer of which 29.5 percent were of the uterus and 21.4 percent of the stomach. Ten percent of uterine carcinomas are located in the corpus. Corpus carcinoma is often associated with myoma uteri. Gurlt collected 947 ovarian tumors, that is 8.5 percent, among 11,140 women with tumors of all kinds. Ewing calculated the relative frequency of the different forms of ovarian tumors and found: cystadenoma, 55 percent; carcinoma, 22 percent; embryoma, 9.2 percent; parovarian tumors, 8.4 percent; sarcoma, 2.9 percent; and fibroma 2.5 percent. Therefore, about one-fourth of the ovarian tumors are malignant. Stengel collected 26,340 cases of carcinoma: 2,255 (8.56 percent) were intestinal and the rectum was most frequently invaded. Kaufman states that the rectum furnished 60 percent of the intestinal carcinomas. Of all the carcinomas, 5.25 percent occur in the rectum. In 100 cases of rectal cancer, W. J. Mayo found 63 in the rectosigmoid, 30 in the rectum and 7 in the anal canal. Edwards, in 755 cases of malignant disease of the rectum, found 542 in males and 233 in females, or 60 and 40 percent respectively. Lynch, in his 491 cases, found 281 males and 210 females, that is, a proportion of 4 to 3. Miller reported 129 cases of cancer of the colon; 77 were male and 44 female, that is, 60 and 40 percent respectively.

In a very important monograph on "Epithelioma of the Genito-Urinary Organs," Broders found, in 473 patients, 346 (73.15 percent) females and 127 (26.84 percent) males. Of 120 bladder cancers, 80 percent were in males and 20 percent in females. Of 4 primary urethral cancers, 3 were female and 1 male. Deaver found, in 131 bladder cancers, 107 (81 percent) males and 20 (19 percent) females. In 322 cases of genital carcinomas, Brothers found 269 (83 percent) cervical, 31 (10 percent) labial, 18 (6 percent) vaginal, and 4 (1 percent) urethral. The preponderance of married to single women is remarkable. Of the 269 cervical carcinomas 82.52 percent were married; of the 31 labial, 77.41 percent, and of the 18 vaginal, 88.88 percent.

Of 423 pelvic carcinomas observed in our clinic from 1914 to 1921, 10 (2.3 percent) were vulvar, 8 (1.9 percent) urethral, 37 (8.6 percent) vesical, 10 (2.3 percent) vaginal, 303 (72 percent) cervical, 25 (5.9 percent) corporeal and 30 (7 percent) ovarian carcinomas.

These statistical reports demonstrate at once the predominance of carcinomatous dis-

ease of the pelvic organs in comparison to those of other regions of the body and the percental numbers found in the different regions.

Importance of Early Diagnosis and Treatment

Cancer killed 90,000 people in the United States in 1920. Since the disease is curable if treated in the incipient or beginning state, and since the average duration of cancer disease is about two years, and if we assume that cancer disease is localized and hence curable during the first five or six months of existence, it follows that about 20,000 people are at present in the beginning stage and curable, if they would apply for and receive the proper treatment now.

It is an unfortunate fact that some victims of cancer disease refuse to believe the diagnosis and delay treatment. Others have a horror of the treatment or consider the disease hopeless and simply resign themselves to the inevitable fate. On the other hand, we cannot deny the short-comings of the medical men in recognizing and treating socalled precancerous states or potential malignancies, and in failing to make an immediate and correct diagnosis of malignancy and in procrastinating the institution of the proper curative treatment.

The high mortality of cancer disease can be lessened by teaching the laity the early symptoms of cancer, by assuring it that the disease is curable if treated in the early stage and by inducing them to seek intelligent medical aid when suspicious symptoms arise. Physicians, nurses and midwives must be taught to give proper advice and encouragement and to insist on an immediate examination, diagnosis and treatment by competent medical men. The American Society for the Control of Cancer has for its object the dissemination of this knowledge to the medical and allied professions and to the laity. We, therefore, should actively support the Society, study the pamphlets and aid it whenever and wherever we can.

Malignant disease is dreaded by everyone. The high rate of mortality, the extensive and serious operations necessary for its eradication, the pain and distressing symptoms which accompany the later stages, make it a terror to patients. For these reasons, relatives and friends often endeavor to keep the patient in ignorance of the true nature of the malady. The nurse who finally will be the patient's only companion and friend should cooperate in this attempt.

Cancer Studies at Mercy Hospital

In the gynecological department of the Mercy Hospital and Clinic, the study of the treatment of pelvic cancers receives a great deal of attention. We may consider these activities under the following divisions: The clinical and diagnostic aspects; the grouping of the cases for the purpose of formulating correct indications of treatment; the technic of the surgical, radiological and palliative methods of treatment. The treatment with radium and x-rays has led to the following investigations and researches: The microscopic and chemical analyses and serum examinations of the blood; and the study of the metabolic or catabolic processes of patients subjected to radiation therapy; the effect of measured radiation doses on the various types of carcinoma cells, the distribution of the intensity of the rays within the tumor and body by means of physical methods, and the determination of correctly measured radium and x-ray dosage.

Let us briefly consider the summary of these investigations according to the present state of affairs.

In the diagnostic and clinical study, we have formulated these principles:

1.—Almost all cancers result from persistent chronic irritations which often culminate in the precancerous state.

2.—Cancer is curable if treated in the early stage, when all malignant cells can be removed from the host.

3.—Surgical eradication is indicated if thereby all the cancer cells can be removed from the body.

4.—If the cancer has progressed beyond the operable stage, then radium and x-ray applications (preferably a combination of the two) is the treatment of choice.

5.—In some regions of the body, radiation therapy must be combined with a subsequent surgical eradication, preferably with the cautery knife, to remove the organ from subsequent irritation or trauma.

The Precancerous State

If we now apply these principles to pelvic carcinomas, we must first study the symptoms of the precancerous state. The precancerous state, like the malignant diseases, is associated with persistent discharge, persistent though scanty hemorrhages or oozing of blood and persistent aching or soreness.

As such states we might mention: Lacerations or other trauma of the cervix, cervical erosions, uterine polypi and chronic infections, ulcerations of bladder, urethra, vagina

and rectum. Palpation and inspection together with cystoscopic and proctoscopic examinations should be made. If the diagnosis is in doubt, then the pathological tissues must be excised either with the cautery knife or by surgical diathermy. The cold knife should never be used. If one inadvertently should cut into cancer tissue, rapid dissemination of malignant cells through the blood stream may obviate all chances of the patient's recovery. Biopsy is condemned by many of the best surgeons for the same reasons. The tissues removed should be examined microscopically and, if an atypical growth of epithelial cells with an invasion of the basement membrane is evident, carcinoma must be diagnosed and the proper treatment applied without loss of time.

Cardinal Symptoms of Carcinoma

Carcinomas of the pelvic organs also have the three cardinal symptoms, namely, discharge, hemorrhage and pain. Discharge is the earliest, hemorrhage the most alarming and pain the most unfavorable symptom of carcinoma. Associated symptoms, usually observed in the later stages, are anorexia, constipation, anemia, insomnia, loss of weight and strength, and cachexia.

The discharge is at first a leucorrhea, the admixture of blood changes the color of the discharge and the occurrence of necrosis and infection give it a characteristic, putrid, cadaver-like odor. This statement applies to corporeal, cervical, vaginal and vulvar cancers. In corporeal carcinomas, we often observe an intermittent discharge. The latter is retained in the uterine cavity. Intermittent, colicky, laborlike pains precede the expulsion of the discharge from the cavity. The hemorrhage occurs mostly with any local irritation, such as trauma, examination, douching and so forth. The only exception is found in corporeal carcinomas. In these, the hemorrhages occur mostly at the time of the menstrual flow which lasts too long, is too profuse and often occurs too soon.

Pain is an indication of the invasion of the para-uterine tissues and neighboring organs. As long as the carcinoma is confined to the uterus, the patient ordinarily does not complain of pain. Hence the statement that pain is the most unfavorable symptoms of carcinoma of the genital organs.

The symptoms in vesical carcinomas are the same. The discharge is usually not apparent to the patient, as it is mixed with the urine and expelled during micturition. Hemorrhage into the bladder is, of course, recognized by the patient. The pain is characterized as painful and frequent urination. Finally, these may be vesical tenesmus and, often, obstruction to the outflow of urine when ischemia is present. In rectal carcinomas, the discharge is frequently recognized, as it causes moisture and intertrigo around the anus, frequently pruritus, and often leads to frequent evacuation of the bowels. In quite a number of cases, diarrhea may be the only symptom. Constipation causes hard-formed stools, often ribbon shaped due to stricture. Hemorrhages are easily recognized by the patient in the rectal carcinomas. The insistence of the physician, to practice bladder and rectal endoscopic examinations as a routine measure, will always clear up these symptoms.

The diagnosis of carcinoma of the pelvic organs, therefore, is always made by clinical methods. We use laboratory methods solely for the purposes of corroboration of the clinical evidence. Microscopic examination of the tissues is essential for sound treatment and prognosis. However, we examine the tissues after they have been removed at the time of treatment.

The careful physical examination is not only a diagnostic means; we thereby must also determine the stage of the disease. We endeavor to answer the following questions:

Stages and Groups of Cancers

1.—Is the carcinoma localized in the organ of primary occurrence? (The clearly localized carcinoma.)

2.—Is there any doubt in our mind on the absolute localization of the disease? (The borderline carcinoma.)

3.—Has it invaded surrounding tissues, neighboring organs or the regional lymph-nodes? (The clearly inoperable carcinoma.)

4.—Has the carcinoma caused a "frozen pelvis" or an advanced cachexia?

5.—Do distant metastases exist, e. g., in the liver, the osseous system or the lungs?

6.—Is the cancer disease complicated with other grave diseases, as advanced heart lesions, diabetes mellitus, tuberculosis, nephritis, senile marasmus and so forth?

Based on the findings to these questions, we group the cancers, and each group indicates the proper treatment:

A. Localized carcinomas. Treatment: surgical eradication.

B. Borderline cases and localized cases that are poor surgical risks are treated with a combination of radium and x-rays.

C. The clearly inoperable cases are treated with a combination of radium and x-rays.

D. The advanced cases, either with a "frozen pelvis" or an advanced cachexia, are

treated by palliative measures.

In 404 consecutive cases of cervical carcinomas, we had 15 (3.7 percent) Class A cases; 209 (51.7 percent) Class B and Class C cases; 92 (22.8 percent) Class D cases; and 88 (21.8 percent) recurrent carcinomas.

Surgical Treatment and Radiation

Surgical treatment of carcinomas is then justifiable only if thereby all cancer cells can be totally eradicated. If doubt exists, we should not subject the patient to a useless operation.

The operation of choice in uterine carcinomas is the abdominal panhysterectomy. In obese patients or poor-risk patients, we advocate vaginal panhysterectomy using spinal anesthesia. In corpus cancers, panhysterectomy is done unless invasion of adjacent tissues or regional lymphnodes has taken place. However, this occurs late in the corporeal cancers, which fact explains the good permanent results of surgical eradication in this class of cancers in comparison to the poor operative results in cervical carcinomas.

In bladder carcinomas, we feel that surgical eradication is indicated in the small pedunculated tumors. The methods recommended are surgical diathermy or the actual cautery. If the microscopic examination shows malignancy, then short-wave length x-ray therapy is immediately applied. In rectal carcinomas, we advise excision if thereby all the carcinomas can be removed. Surgical eradication of these growths is also followed by short-wave length x-ray therapy. Vaginal, vulvar and urethral carcinomas are preferably treated with a combination of radium and x-rays. In vulvar cancers, we may decide to do a radical excision with the inguinal and femoral lymphnodes if such a procedure assures a total eradication of the disease.

Exploratory Laparotomy—Double Purpose

Malignant tumors of the ovaries are often associated with an ascites. It is difficult to render a diagnosis of malignancy, as cystadenomas and embryomas of the ovaries are also accompanied by ascites, though less frequently than the malignant growths. Therefore, we advise an exploratory laparotomy for two reasons: (1) to establish a correct diagnosis and (2) to remove the growths, even if malignant. The operation is immediately followed with a combined radium and short-wave length x-ray treatment. We also resort to radiation therapy in the papillary cystadenomas, the teratomas and the everting ovarian tumors. These are clinically malignant, though microscopically they may be benign.

The localized carcinomas in patients who are poor surgical risks, the borderline and the clearly inoperable carcinomas, are always subjected to radiation therapy. The treatment is a combination of radium and short-wave length x-rays. The application should be individualized for each growth and each patient. The rays should never be used according to a fixed or routine method. The large doses of rays necessary in the treatment of pelvic carcinomas require a careful training of the supervising surgeon and the technician, a standardization of the x-ray transformers and radium capsules, and a careful preparation and observation of the patient. Hospitalization of the patient is necessary. The treatment causes severe reactions and, usually, eight to twenty-four days pass by before the patient is convalescing.

In Advanced Cases

The advanced cases cannot be benefited by any method of curative therapy. They must be treated palliatively, that is, symptomatically. The care of such patients devolves mainly upon the nurse or friends. The surgeon may visit them but rarely. We recommend the insertion of radium in small doses to arrest the bleeding and the putrid discharge. The relief is only temporary. The greatest service which a nurse can render is, to keep the patient clean by neutralizing the foul odor and discharges. The application of granulated sugar to the necrotic and ill-smelling cancerous growth very often arrests the saprophytic action which causes it. Uterine and vaginal discharges require frequent douches, the application of antiseptic powders and dressings, frequent tub-baths, etc.

The douches may contain potassium permanganate (1:3000), zinc chloride (grs. 5 to each quart of water), alcohol 1 fl.-drachm to each quart of water, and so forth.

Local applications may be made with iodoform, xeroform, acetone. For hemorrhages, we may use solutions of alum or tampons saturated with the tincture of iron chloride.

The rectum should be kept clean with irrigations of normal saline or sodium bicarbonate solutions. If a colostomy had been performed either for stricture, obstruction, unbearable pain or rectovaginal fistula, daily irrigations of the lower bowel either through the upper opening or through the anus are required. The injection of sweet oil, to be retained over night, is often helpful to relieve the distressing accumulation of discharge of the mucous secretion in this part of the bowel.

The urinary bladder should be irrigated with boric-acid solutions followed by irriga-

tions with silver nitrate, 1:5000. The deposition of urinary salts indicates the internal administration of sodium benzoate. At times, lithium benzoate will do better. Infections are best combated with urotropin and especially with neutral acriflavine.

If irritation, chafing or erythema of the external parts result from the discharges, we may apply zinc ointment or carbolated vaseline on gauze pads. One pad should be applied to each half to permit of free drainage between them. Over these pads, copious vulvar dressings should be applied composed of gauze and absorbent cotton. These may be wrung out in potassium permanganate or chloride of lime solutions. Platt's chlorides may be used for this purpose.

A basin with a solution of chloride of lime, good ventilation, clean bedding, and the burning of incense, all used conjointly, will ameliorate the otherwise intolerable odor in the room.

The patient should be given every encouragement. The food should be nourishing and easily assimilable. Pain may be relieved with the various preparations of salicylic acid and coaltar; later whisky, brandy and wine to cause a euphoria, and finally pyramidon, heroin, codeine and morphine. At first, the latter may be given in suppositories, then per mouth and finally subcutaneously. Stimulants should not be used when the patient reaches the final stage, as they unnecessarily prolong the inevitable outcome.

Cancers are highly septic. Hence, the nurse should use every precaution for herself by wearing gloves and gown when caring for the patient. That nurse is truly imbued with a high sense of Christian charity who volunteers to take care of a cancer patient in the advanced stage.

Effects of Radiation Upon Cancer Cells

Several statements have been made in the preceding paragraphs which require further elucidation. This also leads to the third part of our work; that is, the consideration of the various researches carried on in radiation therapy. We have stated that microscopic examination of the excised tissues is necessary for sound treatment.

In the microscopic study of carcinoma tissue, we found that in some cases the carcinoma cells would completely degenerate under the effect of the rays and in others they remained apparently unchanged. Comparing the radiation dosage applied with the tissue changes observed, we found basal-celled carcinomas to be very sensitive to radiations, adenocarcinoma or cylindrical-cell cancers less sensitive and the squamous-cell cancers quite refractory to the rays. The biological standard of comparison in radiation therapy is a dose of rays which will cause, within ten to fourteen days after treatment, a deep erythema and, within forty to sixty days, a deep brown tanning of the skin. This dose can be measured with a standardized electrometer, so that we are able to reproduce the same dose if we always use the same factors of operation, namely, kilovoltage, milliamperage, focus, skin-distance, filter, size of field and time. The biologic unit is designated a 100 percent erythema skin dose. The doses necessary to cause a degeneration of the various cell types of carcinoma have been tentatively placed at about 120 percent E. S. D. for the basal-celled, 150 percent for the cylindrical-celled and 180 percent for the squamous-celled cancers.

Reaction to Radiation

Further, we observed in our extensive experience patients who showed hardly any reaction following the treatment, others had a marked reaction, and in some we had very severe reactions. As a matter of fact, we lost seven patients out of a total of over 2500 cases subjected to radiations, with symptoms of a severe toxemia. We soon learned that patients with extensively necrotic carcinomas and lowered vitality had a severe radiation sickness more frequently than patients with less extensive cancers, while patients with localized or borderline cancers had only a mild reaction.

Urine and hemanalysis did not enable us to fathom these reactions. However, through careful chemical analysis of the blood, we reached the conclusion that tumors undergoing autolytic processes and hence accompanied by inflammatory changes invariably gave a pronounced radiation sickness. The patients had a marked increase in the non-protein nitrogen constituents of the blood. Patients with localized or borderline carcinomas had a mild reaction and did not show a change or only a slight change in the non-protein nitrogen constituents of the blood. While in advanced cases, in which the patient showed a marked non-protein nitrogen increase, the latter continued to rise until the patient succumbed, or the patient was treated with transfusions of whole blood and sustaining therapy to finally recover from the radiation sickness or protein intoxication. This reaction, therefore, was not the result of the splitting up of the cancer cells.

The question arose whether any reaction referable to the degeneration of the cancer

cells occurred at all. Kaminer and Freund had shown that isolated carcinoma cells are digested by the serum of non-cancerous individuals, whereas this carcinolytic property is wanting in the sera of carcinoma patients. If carcinomatous growths have been surgically eradicated, then the serum of such patients reacquires carcinolytic properties. We, therefore, assumed that, if carcinoma has been completely regenerated by radiations, then the blood of such patients also should reacquire carcinolytic properties. The serum tests performed under these conditions proved that the assumption was correct. A correctly applied carcinoma dose is followed by a reacquisition by the serum of carcinolytic properties.

The physical investigations enabled us to measure the decrease of intensity by absorption of the radium and x-rays in traversing the body. We constructed equal intensity curves from these measurements. When a patient enters the clinic, an exact transverse diameter of the pelvis of the patient is made, in which we enter the location and extent of the tumor. By means of the equal intensity curves and the knowledge of the exact cell type of the malignant growth, we may calculate the exact dosage we intend to apply. Using the same factors of operation, we simply must vary the time duration of treatment to apply the dose. Dosage is the product of intensity and time.

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In this short résumé, I have endeavored to discuss the principles of treatment of pelvic carcinomas as practiced in the gynecological department of the Mercy Hospital and also attempted to give you a summary of the various researches undertaken to add to the solution of the cancer problem. A large number of patients have been restored to apparent health. Quite a number have passed the five-year limit free of any recurrence. Though our successes are mostly confined to clinical cures of two or three years' duration, and the patient is able to reassume her duties in life, we feel amply repaid for our efforts. The mother with many children is more often afflicted with cancer disease than the well-to-do or the single woman. A return of such a patient to her duties, even for only a few years, is an important sociological achievement.

25 East Washington street.

Percutaneous Therapy With New Remedial Agents

By ROBERT F. McDONALD, Brooklyn, New York

PHARMACOTHERAPY changes and develops continuously, particularly in a highly-specialized practice.

The intelligent physician, who practices amongst the educated class of people, is constantly watched by his patients and observed as to the form of prescriptions he uses and is often requested to explain the reason for a special new prescription and also very often asked for the formula. His greatest necessity is, to have the ability to combine new remedies in new formulas. This is not taught in the universities and, as a rule, has to be worked out in private research work. The ordinary physician often needs the advice of pharmacological experts in the compounding of new prescriptions. For longer than a decade, I have been in close contact with expert pharmacologists of the Collapsule Company, of New York City. They have always been ready to help me out in difficult cases.

In the construction of my formulas, I prefer a single effective drug to obtain a certain pronounced reaction. It often happens that these drugs are new products of chemical industry.

Very often, a patient desires something new, else he will not be satisfied. Most new remedies come into the market in the same physical shape and, frequently, even if the remedy is a good one, it appears so similar to an old ineffective one which the patient has already used, that he is dissatisfied.

Many remedies are made up of a combination of drugs, ranging from two to ten or more, and in such a mixture there is probably only one effective drug.

In making new formulas, the first thing to be considered is the basic effect of the drug which must enter the system and produce within the system a desired chemical or physical action readily appreciated and which in turn produces the desired therapeutical effect.

Using Drugs in the Treatment of Diseases:

I deny that the human organism is a mere test tube. Certainly, the reactions within the human body are more complicated; therefore, harder to understand, harder to control and much more difficult to successfully prearrange than in the test tube.

We have to consider the different methods

of introduction of remedial agents into the body, whether this introduction be through the skin, through absorption through the stomach, the intestinal mucosa or through the lungs, etc. One of the principal differences between a test tube and the human organism is that the mouth of the test tube is ever ready for the passage of every chemical compound, while, in the case of the human organism, we have to consider the mucous membrane of the intestinal canal, and also the epidermis which is closed and protected by layers of membranes acting similarly to filter paper and even much less permeable on account of the fact that their action is inhibited by the presence of lipoids and other influences which regulate the passage of liquids through the mucous membranes into the blood stream. In other words, the mere fact that a solid substance, no matter whether it be food or some indigestible article like a bone button, is swallowed does not mean, properly speaking, that it is in the organism.

One advantage of the human body over the test tube is the fact that, in the body, we have an increased temperature which melts some fats and lipoids and decreases the viscosity of many watery solutions. In this sense, every effective drug introduced into the human system means a complicated chemical addition to an already complicated mixture. This new chemical addition is intended to cause certain desired reactions or to modify a present biological reaction in a certain desired way. Each effective drug has first to enter the system, in the sense explained above, and it can act only after its entrance. This is a primary requisite, whether the drug be taken through the mouth or through the skin.

I now come to the preparations of which I particularly intend to speak. This paper, to all practical purposes, is merely an introductory one to a wide field in therapy. At the present time, I intend only to take the subject up in a general way. In later publications, I hope to go into the matter more specifically, giving the preparations used in specific pathological conditions.

Absorption Through the Skin

Many drugs may be absorbed through the skin and in that manner produce certain effects upon the system. Goldman, at Sopron, Hungary, showed that even the hairy skin of the scalp is able to absorb large quantities of iron compounds, which exert their effect upon metabolism, while the excess of iron is shown in the urine and feces. It is commonly known that the skin easily absorbs certain chemicals which are easily volatilized. For instance, elementary mercury may be mixed with common lard. In this fine suspension of mercury, commonly known by the name of "Blue Ointment", a very low percentage of mercury is volatilized and in this manner absorbed through the skin. However, the remaining large amount of mercury is not absorbed at all; shirts, sheets and any clothing, that come in contact with the patient who is using "Blue Ointment," show more absorption of the above-named chemical than the skin of the patient. Menthol is very volatile; for this reason, the menthol pencil is effective in hemicrania. Unfortunately, the drugs most desired and most needed are not volatile and, therefore, cannot be used scientifically and, hence, effectively in the form of ointments.

But, there is another great possibility of introducing effective remedies through the skin. The skin contains large amounts of keratins and lipoids of the cholesterine group. On the one hand, as we all know, carburetted hydrogen and other lipoids are mutually soluble, also, there are compounds which have a mutual solubility with the keratin derivative. But, then again, these mutual solubilities are commonly restricted and the preparation has to be so made that too much burden is not put upon the skin. The only substance that has a high tendency of penetration into the human skin is lanolin, a biological skin derivative of the sheep. However, even at that, lanolin must not be unnecessarily charged with foreign bimixtures. This mutual penetration of lanolin and the lipoids of the human skin is so strong that lanolin left on the surface of the skin is absorbed and disappears after a short time—more rapidly so if massaged. The epidermal cells are in fact the blotting paper for lanolin.

I am now coming to what I consider the crux of the matter.

Conditions for Successful Use of Lanolin as Menstruum

The use of lanolin as a base for ointments is good therapy. Where the big mistake is made is, that the remedy, when used with lanolin, is in a state of suspension and, while the lanolin is absorbed, the remedial agent is left to decorate the skin.

If we dissolve sugar in water and bring this solution in contact with blotting paper, the sugar passes through the blotting paper with the water. If we take a muddy brackish water from a salt-water river, only the salt water goes through the blotting paper, but the mud remains outside. The average ointment, even though it be made up with lanolin, is nothing but a muddy suspension. The power to absorb

is less strong in the skin than in blotting paper. Therefore, in the average ointment made up with lanolin, only the lanolin is absorbed and the suspended drug, which is given for a certain therapeutical effect, remains on the outside of the skin, having no effect upon the organism. About the most evident effect obtained is, to soil the clothing and disturb the peace of mind of the patient. *Ointments are effective only when the drug or a modified compound of the drug is dissolved with lanolin in such a way that the lanolin solution is capable of penetration into the lipoids of the human skin.*

Doctors Oefele and Cyrenius performed for me the real technical work in making certain solutions within lanolin. It is a series of the different ointments. In this paper, I will not speak in detail of the different remedial preparations I am at present using; the subject is too broad as, necessarily, each condition calls for a different drug to be used.

Ointments of Bromine and of Iodine

At present, I will speak principally of Bromine Ointment and Iodine Ointment. The Bromine is in the form of a chemical compound of "Hexabrominestearin" and the Iodine in "Hexiodinestearin". These preparations make very easy a bromine or iodine treatment of local character and are compounds of fats of easy solubility within lanolin. These new mixtures will not separate into layers when heated. If the ointments are repeatedly applied to the skin, bromine or iodine are found in the urine, which is proof beyond a doubt that constituents of the ointments have been absorbed and excreted. Not all drugs can be combined with stearin, it being necessary for other compounds to be made into soaps or oxysoaps.

As a practicing physician, I have not the time to go into the details of chemistry that call for a large amount of experimental work in the laboratory—each drug calls for its own particular line of investigation and experimentation. For this reason, I am always in close contact with specialized experts whom I can trust for their ability in scientific research. Fats, fatty acids and lipoids, as soaps or as esters, all may deliver a compound of the desired drug which is soluble and miscible with lanolin and able to penetrate the skin at least down to deeper strata. Colloidal suspensions may, in a few instances, be suitable for use in exceptional cases. But, in my experience, I have found the commonly-employed suspensions useless and I therefore exclude them.

I consider this to be a very important advance in modern therapy and I hope soon to go more into detail as to its application in specific diseases with a report of clinical cases.

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Influenza and Epilepsy*

By M. G. MAILLARD, Paris, France

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IT appears that, hitherto, the relations between epilepsy and the acute infections have not been studied sufficiently. Nevertheless, there is here an interesting subject for investigation. It has been observed, since the time of Hippocrates, that an acute disease occurring in the course of epilepsy arrests or diminishes in many patients the number of the epileptic attacks. Furthermore, recent therapeutic procedures directed against the intercurrent disease and being based upon the action of various antitoxic serums and bacterial vaccines have given encouraging results. Quite recently, Doctor Guiraud[1] has published an excellent study on this question.

The observations that we have been able to make in the course of the recent grip epidemics corroborate entirely the occasional expressions of opinion and encourage the pursuit of further therapeutic investigations with respect to epilepsy.

The fall epidemic (1918) made itself felt among the epileptics in Bicêtre in two periods, namely, in June and October. In this manner, we had a splendid opportunity to observe, under favorable conditions, how these two maladies, epilepsy and influenza, react one upon the other.

Outside of the restraining action of influenza upon the epileptic attacks, which is very clearly manifest, as we shall show, we have observed two other interesting factors, namely, the severe aggravation of the influenza by the epilepsy and the immunization produced by the influenza in all those patients in the clinic whom it had affected from the beginning.

*Translated from the French manuscript.

[1]P. Guiraud. "Traitement de l'épilepsie par les sérums antitoxiques et les vaccins". *Paris Médical*, 5 Octobre, 1918.

1.—Effect of Influenza Upon Epilepsy

In all of our epileptic patients who acquired flu, we have noted an almost complete suppression of the epileptic attacks during the acute stage of the disease.

The records of the epileptic attacks are at present kept very exactly in our service and, in this manner, we are enabled to take note of diverse influences which may alter the course of the epilepsy.

On examination of the curves of attacks, in the course of influenza infection, this is found to be entirely characteristic in all our cases. The following calculation will show the inhibiting effect of influenza upon the concomitant disease.

On computing the average of attacks in our epileptics ill with flu and including only those in whom the attacks recurred in a sufficiently regular manner, it is found that those who would otherwise have had a total of 105 attacks suffered only 14 during the fever period. Moreover, these 14 attacks took place mostly in the earliest part of the fever period, at the time when the infection had hardly been established.

It seems as though, through the acute infection, there had been established a sort of derivation from the brain to the respiratory apparatus or an effect that is somewhat analogous to that of a fixation abscess in the course of serious infection.

Unfortunately, this quiescence is only transitory. When the temperature once more became normal, the epileptic attacks returned gradually and the epilepsy continued its course in our influenza patients as it had done before. In spite of this fact, though, this inhibiting action of the acute infection upon the epileptic seizures is, nevertheless, clearly manifest. Is not here a way that might be explored for suitable treatment of the underlying disease which, unfortunately, is so deceiving? It seems to us that researches undertaken in this direction might lead to interesting results.

2.—Influence of Epilepsy Upon Influenza

In our epileptics, the influenza disease was exceedingly serious because of its complications and its mortality, especially during the second epidemic, in October.

Among 63 cases, 22 were simple and 41 complicated, as follows: 4 cases of pulmonary congestion; 17 of pneumonia; 15 of broncho-pneumonia; 3 of acute pulmonary edema; 1 of pleurisy; one of intestinal influenza.

The deaths numbered 32; namely, 14 from pneumonia; 15 from broncho-pneumonia; 3 from acute pulmonary edema.

There are two other deaths among our influenza patients which we can not charge directly to the flu. Of the two patients, one afflicted with double pneumonia died in the course of an epileptic seizure. In the other case, the epileptic cachexia was aggravated by the grip.

We may remark here that all our patients were isolated in three different classes: namely, isolation for complicated cases, for simple cases and for the convalescents before returning to the community life of the clinic.

Furthermore, all the remedial agents that are considered as most effective were employed systematically. In addition to the customary treatment, which was enforced very strictly, we employed largely packs, venesection and hexamethylenamine, according to the method suggested by Ravaut; yellow quinine in black coffee, as it was suggested by R. Dubois, injections of electrargol, injections of antipneumococcus serum from the Pasteur Institute which, unfortunately, we could obtain in but insufficient quantities.

Reasons for the Unfavorable Influence

To what must the absolutely definite seriousness of influenza in our epileptics be attributed? In one part, the physical deterioration is to be blamed which was noticeable in several of our patients, due, possibly, to insufficient nutrition on account of restricted diet and which expressed itself in a loss of weight as it has been observed in the majority of the patients in clinics for mental diseases. These patients, in fact, received but few visitors and were confined in the wards. They could not, like other hospital patients, supplement the insufficient food by provisions obtained from outside; and it is a fact recognized by most chiefs of clinics that the patients were insufficiently fed for a long period. It is to be noted also that several of our patients, unable to realize their condition, might drag along their influenza for several days before they were recognized as being ill. To be sure, this could happen only at the beginning of the epidemic. For, in order to avoid this danger, we then took the precaution to have all the patients in the clinic examined mornings and evenings, taking the temperature in all doubtful cases. However, these considerations can be applied only to some of our patients and do not suffice to explain the special seriousness of this epidemic.

As a matter of fact, we have observed extremely serious cases and even fulminating ones in patients who did not appear to be particularly enfeebled.

In our opinion, the principal cause of the high mortality which we have recorded lies in the epilepsy itself; it rests in the organic deterioration that frequently accompanies the disease in our hospitalized cases but especially in the predisposition of these people toward congestions.

Epileptics are congestives. Their facies indicates that. Their arterial tension is elevated; their tissues are infiltrated, their organs congested, as appears almost constantly on the autopsy table, especially in the neighborhood of the nerve centers, even if they do not die in the course of an attack or while being particularly ailing. We believe that the affections that predispose to congestive complications are to be feared especially in these patients; and that was true in this epidemic.

The vulnerability of the epileptics in the course of the actual epidemic was manifested, moreover, at least as seriously in other clinics for epileptics as in ours, as far as we have been able to learn.

3.—Influence of the June Epidemic Upon That in October

In regard to this point, we have been able to observe quite clearly that a complete immunization was produced by the first epidemic in many patients in the clinic. The June epidemic, which was less serious than the one occurring in October, developed in two wards (the Pavilion and the Ward Leuret) and could be closely circumscribed, thanks to the measures that were taken.

When the October epidemic declared itself, not only did none of those patients that had been affected the first time acquire the disease again but, furthermore, not a single case appeared among the patients of these two wards who, while not having had grip in June, nevertheless, were in contact with influenza patients and did in this manner become immunized. In this we discount the fact that, despite several protests, we had our October influenza patients taken back to a part of Ward Leuret, which was isolated simply by an emergency partition consisting of sheets hung across the ward. We have had no cases of grip among the personnel in the isolated ward.

Summary

Summarizing, we could observe clearly, owing to special conditions in which we were placed:

1.—The inhibiting effect of grip upon epilepsy.

2.—The extreme aggravation of the grip by the epilepsy.

3.—The fact that influenza produces an immunity.

Is Rejuvenation Without "Steinach" Possible?

A Preliminary Communication

By ALFRED MARTIN, Bad-Nauheim, Germany

THE desire of old people for rejuvenation finds its expression in the tale about the fountain of youth which is well known, at least in the Germanic nations. The northern Germanic tribes had a goddess, Idhun, who guarded apples. Whoever came into possession of these, acquired the everlasting youth of the gods.

The home of this goddess was Brunnakr, that is fountain field, the place with the spring of youth, which vivifies everything. In all German folklore, the fairy tale of Frau Holle's fountain is found, where the souls of the newborn children come from; also life. It is assumed that it is identical with the fountain of youth of the olden tale, where old folks who bathe in it are made young again.

In the heroic poem, "Wolf Dietrich", the fountain of youth stands on a high mountain; one half is cold, the other warm. Into this, the rough-skinned Elsie jumped, praying to God to protect her. She submerged and rose as Frau Sigminne, the most beautiful woman in all lands. The rough skin she had left in the fountain.

The Meistersinger and shoemaker, Hans Sachs, of Nurnberg, dreamed, in one poem, of the fountain of youth which contains warm and cold water. If a man were even eighty years old and were to sit in that water for one hour, his mind, heart and limbs would become young again. All those who had jumped in, came out, one hour later, beautiful, fresh and healthy. When he was about to climb in, himself, he awoke and had to laugh; for, as he says, no herb grows on earth to rejuvenate old Hans Sachs.

Some Truth in Dreams

Yet, after all, there is something of truth in the tale of the fountain of youth. To be sure, the fanciful dreams must be put aside and the rejuvenation taken relatively.

The idea came to me, for the first time, about twenty years ago, when I was assistant

in the medical clinic in Zurich (Switzerland), with Professor Eichhorst. The Clinic served first of all for teaching purposes, but, being a part of the Kantons-Spital (a public institution, maintained by the government), it was necessary to receive patients even though they might not contribute anything for the instruction of students. An agreement made it possible to send our patients, at small cost, to the sulphur spring at Baden, in the Canton of Zurich. We referred there on one occasion an old man whom nothing ailed but his great age. After the cure, he presented himself and, to our astonishment, he had become years younger; as he himself felt and asserted proudly.

Later on, I received the impression that such results occur especially in persons who had never "taken the waters". They may probably be observed in all thermic springs, that is, in the natural warm springs. The German poet, Justinus Kerner who, for a time, was attending physician in Wildbad, a thermic spring in Würtemberg, gave an enthusiastic description of the place and emphasized that, though it was not possible to scald, in that spring, either pigs or fowls, it was feasible to bring eggs almost to hatch.

He sang:

Wie Lenzeshauch wird's dich durchbeben;
Frag' nicht, wie diese Kraft man heisst.
Du kehrst, ein neuer Mensch, in's Leben
Und sprichst: Das Tut des Wildbad's Geist.

A breath of Spring, it trembles through you—
Ask not whence comes this source of might;
New man am I, from Nature's own brew—
And this I owe to Wildbad's Sprite.

First of all, of course, are to be considered thermæ that have a temperature sufficient to use the water direct for bathing.

A special place is occupied by the brine baths containing carbonic acid. On looking over the summer patrons in Bad-Nauheim, it will be seen that the majority of the guests are old or elderly persons. That is natural, because arteriosclerosis is a process peculiar to age and the presclerotics are prematurely old. Originally, only such patients were sent to Bad-Nauheim who, having passed through attacks of acute polyarthritis, still retained traces of articular rheumatism or had valvular lesions. Then came patients with nervous afflictions of every kind and, finally, patients with arterial sclerosis or presclerosis predominated.

Steinach's Aims and Results

What does Professor Steinach attempt to attain and what has he accomplished? I take my information from a good, popular article in the "Didaskalia", the supplement to No. 90 of the *Frankfurter Nachrichten* (April 1, 1923) which was written for this paper by Dr. Peter Schmidt, of Berlin, the associate of Professor Steinach, in Vienna, at the request of the latter.

Doctor Schmidt says: In this article, "I do not address those who demand miracles and sensational happenings and who imagine 'rejuvenation' to mean the growth of blond locks on their bald heads and eternal life in the fullness of youth; but, those readers who . . . will rejoice that it has been possible in a large number of cases to 'allay the troubles of premature age and of timely age', to postpone old age and to prolong the joy of work and of life."

In his book, "Rejuvenation," Steinach adds to his fundamental observations in rats a detailed description of his first observations in man. Even then, in his small clinical material, he observed all those changes that were noted later on in hundreds of cases. In these old, withered, tired, emaciated men, there was a rapid improvement in weight, the skin became firm, the growth of hair and of nails became stronger. Troubles incidental to senility disappeared and the *vita sexualis,* which had been extinguished, was restored.

These manifestations were soon confirmed and extended by the surgeon Lichtenstern, of Vienna, in a larger number of cases. He observed, above all, the improved appearance of the integument which, before the operation, had been dry and scaly, affected with senile skin changes and which, after the operation, promptly became elastic and firm and no longer showed pathological changes. He observed also a new growth of dark hair, a cessation of the senile trembling of the extremities and notable improvement in serious cardiac trouble (cardiac asthma) which had existed for years before the operation.

As to the methods of examination, Doctor Schmidt says, among other things: "Regular examination of the blood pressure and of the muscular force of the heart was of great importance because, in civilized persons, the growing old is to be referred mainly to changes in the cardiac and circulatory system. A further possibility for objective examination was presented by determining the vision and the potency.

"For this operation are first suitable, as a matter of course, all persons who have grown old normally (in so far as they have not become too old) and, above all, persons who grow old prematurely, in part or in toto, with

commencing calcification of the arteries, with loss of hair, and with diminished potency. More recently, attempts have been made, in addition to these indications, to influence, through operation on the puberty gland, maladies like diabetes mellitus and others which are associated with disturbances in glands with internal secretion. Many cases of mental and nervous diseases have been improved by the operation."

The Mineral Salts of the Thermæ

Since my article is intended merely for a program, I have cited the foregoing in abstract and will now give examples from the material which I have collected, adding to that my own view of the matter.

On reading Doctor Schmidt's discussions, it will be found that the cardiac and vascular system, the skin and hair, and the potency occupy the foreground. It is too well known to require detailed discussion that the carbonized brine-baths, especially the natural ones, and especially the thermæ, more particularly a certain group (which I know in Bad-Nauheim)—namely those containing calcium chloride and magnesium chloride—exert a favorable influence upon the function of the arteriosclerotic heart and vessels. I wish to point out that patients who, on starting the cure in Bad-Nauheim, have small quantities of sugar in the urine lose this usually, no matter whether we assume the cause to lie in the pancreas or in cerebral arteriosclerosis. Here, then, there is a decided agreement with the Steinach operation.

We may go further. The natural carbonized brine-baths contain, as their name implies, carbonic acid and brine; that is to say, salts. When the action of artificial carbonized baths was compared with that of natural carbonized brine-baths, differences were noted. The explanation is very simple. The natural spring contains salts, the artificial carbonized bath does not. Even if table salt (NaCl) were to be added to the artificial carbonized bath, the effect still would differ because the natural springs contain *mixtures* of salts. Among these natural springs, again, there are some that contain gypsum (calcium sulphate) and others that contain calcium chloride and magnesium chloride. Now, the springs containing calcium chloride are most effective for treating cardiac patients, especially those with arteriosclerosis.

The action of baths containing gypsum must differ from that of those with calcium chloride, since the two kinds of springs are entirely different, chemically and physically. My studies have led to this conclusion. I have, for years, maintained this in my lectures on the development of the watering places and, more recently, the difference between the two kinds of spring is mentioned by other balneologists. It seems to me that especially the improved blood supply of the liver depends upon the saline content; then, since calcium chloride is the most effective salt, it enjoys particular importance. In all probability, a process of rejuvenation, as it is produced by natural springs, depends upon calcium chloride in still another way, as I shall mention later on.

I do not deny that carbonic acid exerts an effect upon the arteriosclerotic heart and vessels. However, this has been too greatly emphasized. In the process of rejuvenation, the carbonic acid has a somewhat different importance; as I have recently outlined in a small article published in the *Zeitschrift für die Gesamte Gerichtliche Medizin* (Vol. 11, No. 6).

Action of Carbonic-Acid Gas

It was reported, in 1747, concerning the Selzerbrunnen near Grosskarben (which is a spring situated in the neighborhood of Bad-Nauheim) that, after cleaning the fountain, when the water had been pumped out, people who were below in the bottom of the well became unconscious. It does not seem to have been realized that the practical jokes that were perpetrated there were reprehensible. The victims were poisoned with carbonic acid, and it is noted that marked priapism occurred.

On reviewing the literature on carbonic-acid intoxication, I have failed to find any reference to priapism. There exists an *external* effect upon the genital organs, which, indeed, has been utilized in watering places. Küster declares, in the "Jahrbuch für Deutschland's Heilquellen" (previous to 1855), concerning the action of the carbonic-acid gas (*not*, water) bath: "In male patients, especially in older people, who claimed to have passed their sexually active period years ago, there occurs, as a rule, a pollution." The same has been noted as "by no means rare" by Vogel ("Gasbäder zu Franzensbad," 1847).

Occasionally, I am told of sexual stimulation after using the carbonized water baths in Bad-Nauheim. One old man assured me that his potency, which had been lost, had been restored.

Formerly, CO_2 gas baths were administered in Bad-Nauheim in which the lower part of the body was surrounded by CO_2 gas. The *Revue des Deux Mondes* for May 15, 1855,

says: "There is one peculiarity of the Nauheim baths, both the carbonized brine baths and the gas baths, which should not be passed by silently. The patient may stretch himself out in careless comfort in his carbonated brine bath, the water of which is constantly being renewed and sprayed in large volume and in which the pearls of carbonic acid rise constantly; or he may take a carbonic-acid gas bath—it never fails that he is conscious all over his body of an agreeable titillation and pleasant prickling in the skin which gives rise to sensations that defy the decrepitude of age as well as of premature impotence (Rotureau, "Die Mineralquellen zu Nauheim," translated by Bode, Friedberg, 1856).

Hence, the external administration of CO_2—containing gas baths and water baths also will tend to restore potency.

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To return to the calcium chloride and to saline mixtures containing it, there are natural springs with such saline mixtures which are employed for drinking cures; for instance, Sodenthal and Suderode. If the brine is evaporated by heat and the sodium chloride is removed, there remains a brown liquid which is called mother-lye. In the springs containing calcium chloride, this salt remains in the mother-lye because it is far more soluble than sodium chloride and does not precipitate. The mother-lye of Bad-Nauheim and that of Kreuznach are famous. They are not found frequently and French springs, for instance, do not contain any mother-lyes containing chloride of lime.

Recurring once more to Steinach's attempts and referring to the influence of Steinach's operation upon the skin: In Steinach's first experience, in which the vas deferens was ligated, the old rats, whose fur was rough and which were tired and emaciated, became smooth-coated and showed in their entire behavior the picture of youthful vigor.

Observations in Animals

When, during the war, the fodder for the cattle became more and more sparse in Germany, attempts were made to find substitutes or at least substances that would effectively supplement the food. The work started with the experiments of Emmerich and Loew who found that guinea pigs fed with calcium chloride not only had more litters but that, with each litter, more young animals were produced than in the control animals. This observation proved the influence of calcium chloride upon the sexual function.

Professor Krämer, now in Giessen, working in the agricultural college in Hohenheim, fed twelve cows with Sodenthaler Spring salt. Of the twelve cows, eleven bore calves, although it had been several years since they had done so.

The records of the Bad-Nauheim Badedirektion und Saline contains the following letter from Professor Krämer: "For years, I had much trouble with the cows in the barn. The animals did not conceive and sometimes had to be served six or eight, or even ten times. Then, on April 8, of last year, I commenced adding Sodenthaler Badesalz to their food, putting it up in boxes. The animals were permitted to lick the salt as much as they pleased but, apparently, did not do so very much. For several months previously, the supply of food had been rather scant. Hay, chopped straw and grass (the latter being very slight) constituted the sole feed. Bran was given only in very small quantities and was soon exhausted. We are situated at an elevation of 400 meters, open to the north and east, because of which the entire Filder Plain is very unfriendly. For this reason, considering that it was at the beginning of the pasturing period and that the weather had been continuously damp, the unwholesome appearance of the cows caused us to anticipate considerable losses. These, however, failed to take place, to our surprise. On the contrary, the animals acquired smooth and glossy coats, such as I had never before seen them. Three cows, which I had bought in July in the Allgaü and which looked about as rough as wind and weather can bring it about only in the Alps, made a better appearance after only a few days; a few weeks later, even those who had smiled at my purchase couldn't understand it. The transformation was simply incredible.

My older cows also continued to look better and especially the smooth, glossy hair was striking. The weight also was favorable and the animals looked well nourished.

I was particularly curious regarding the question of pregnancy. For the first time, in my experience, all these animals, with one exception, became pregnant. They all calved in spring, seeing that they conceived in July and August.

On a large estate, in Gross Zimmern, despite the scant feeding during the war, the supply of calcium chloride caused a larger production of milk, per cow, by 1.1 liter. The animals lost their rough hair, they looked

smooth and glossy and were in good flesh.

With Nauheim mother-lye, also, good results have been obtained; which were evident, especially in the direction of a gain in weight.

"Steinach" Without Vasoligation Possible

It will be seen that, without the Steinach operation, results similar to his were brought about. I might refer to a report by Krämer who treated a female dog with Sodenthal water during the war, when bone food was scarce and, after years of barrenness, the animal had a litter of six puppies.

The question, whether rejuvenation is possible without "Steinach", may be answered affirmatively if Steinach's own definition is adhered to, namely, that rejuvenation means the relief of troubles incidental to premature and timely growing old.

Tuberculosis in Children

An Undeveloped Field

By PHILIP P. JACOBS, Ph. D., New York
Publicity Director, National Tuberculosis Association

THAT the campaign against tuberculosis has made rapid strides in the last fifteen years, is abundantly attested, not only by the large and closely knit organization covering every state in the Union, but also by the more significant fact that the death rate from tuberculosis has been declining at an increasing rate during this period. So eminent a statistician as Dr. Lonis I. Dublin* has recently stated that there is a direct and manifest correlation between this decline of the death rate and the organized effort of the national, state and local tuberculosis associations with their hundreds of affiliated institutional and other agencies.

Within recent years, say within the last six or seven, the emphasis of the campaign against tuberculosis has shifted somewhat from the necessity for preventing infection with tuberculosis toward the need for building resistance against the disease. When the National Tuberculosis Association was founded, in 1904, its founders and those who labored in the early years of development of the organized movement against this disease in the United States, laid more stress upon the prevention of infection and the curability of tuberculosis. Increasing knowledge, not only of the universality of infection but also of resistance and immunity in tuberculosis, has broadened the program of tuberculosis work to include many activities that were formerly not considered. The need for hospitals and sanatoria to provide treatment for all stages of open tuberculosis must still be emphasized. So also must stress be laid upon the need for the prevention of spitting and the regulation of the milk supply, the two most potent sources of tuberculosis infection. But, in addition to these activities, an ever increasing emphasis is being laid upon the need for keeping everyone, both sick and well, in good health, in order to prevent breakdown with tuberculosis from that infections material which, we have found, is lodged in the bodies of most persons before they reach adult age.

The Children's Problems

This change of emphasis has brought about an increasing program of activity for children. The program is as yet visualized in its entirety in only a few scattering communities. Here and there, one finds a little dabbling in open-air schools, preventoria, the Modern Health Crusade or Nutrition Classes; but, take it by and large, the surface of this great field of activity has hardly been scratched.

The problem of tuberculosis in children has a great variety of ramifications. It is generally held that, given a generation of children reasonably free from tuberculosis infection, properly educated with regard to health habits, trained to periodic physical examination, and taught the significance of latent infection in relation to manifest tuberculosis, the morbidity and mortality rate from tuberculosis would be reduced to almost nothing. In other words, the hope of the campaign against tuberculosis, many believe, lies in the child.

First and foremost in its approach to the child, the tuberculosis problem must begin with a system of health education that will teach the child how to care for his body. Habit forming, with regard to such essential and simple duties as brushing one's teeth, cleanliness of hands and body, proper posture, correct diet, regulated rest and exercise, and helpfulness of mind and spirit, is absolutely essential in the building of resistance against tuberculosis. In appreciation of this fact, the National Tuberculosis Association has, for about six years, been developing the Modern

*"The Causes for the recent decline in tuberculosis and the outlook for the future," Trans. National Tuberculosis Assn., Vol. 19, 1923.

Health Crusade, a system of health training in schools which, up to the present time, has enrolled over eight million children. The aim of this health-education movement, together with many others, is directed towards habit formation.

Contact Cases

A second purpose of the tuberculosis campaign as it relates to children should be, and in some instances is, directed toward that relatively small percentage of children who may be called "contact" or "exposed" cases, that is, those boys and girls who come from homes where there is or has been an open case of tuberculosis and where, both from von Pirquet tests and from other experience, one may postulate that there is a massive infection of tuberculosis. Even where such children do not exhibit outward manifestations of tuberculous disease, such as may be found in the glands of the neck, for example, experience has shown that, by proper teaching and more intensive observation, these children can be built up so that danger of development of tuberculosis from their infection is reduced to a comparative minimum.

While the curve of tuberculosis morbidity and mortality sharply declines during the early years of school life, that of tuberculosis infection constantly rises during the same period. This is particularly true of children who come in immediate contact in their own homes with open cases of the disease. To build resistance in these children, both by the correction of physical defects and impairments and by proper health teaching coupled with a regimen of fresh air, good food, rest and supervised play, is tantamount in many instances to warding off an attack of tuberculosis during the critical period of early adolescent life.

The "Predisposed" Child

A third aim of the program of tuberculosis work directed toward children should be, to take still another group of children who are sometimes wrongly designated as "predisposed." Strictly speaking, there is no such thing as a predisposition to tuberculosis. There are, however, a very large number of children who, because of improper food, or lack of sufficient food, or overwork, or for a variety of other reasons, are malnourished, anemic or physically substandard. On careful examination, many of this group would be found to be actively tuberculous, and the others potentially so. Even where there is no history of contact with tuberculosis, there is abundant experience to prove that intensive preventive work directed toward this group of children pays large dividends in building resistance against tuberculosis. It is this group from which the nutrition classes are recruited. It is this group that furnishes the candidates for the open-air schools and fresh-air classes. It is this group that supplies children who throng the summer camps and similar agencies. They are the borderline cases, less immediately in need of attention possibly than the "exposed" or "contact" children, but nevertheless requiring careful watching, medical supervision and special care in order to prevent breakdown with tuberculosis.

Hilus Tuberculosis

There is still another group of children upon whom special work must be done and that is the group of children who exhibit some manifest signs of tuberculosis. There is no more hopeful work being done by tuberculosis sanatoria and similar institutions than the treatment of hilus tuberculosis in children under fourteen years of age. English, at Glen Gardner, has recently shown that as high as 97 percent of these children are restored to normal efficiency after periods ranging from one to ten years following discharge from the sanatorium. The splendid results being achieved in a number of institutions, where heliotherapy is being used as a treatment for surgical tuberculosis, also give evidence of the favorable prognosis even of fairly severe tuberculosis in children. In fact, one may say that, although the incidence of manifest tuberculosis in childhood is relatively low as compared with that of early adult and adult life, the prognosis is decidedly more favorable.

The Program in Brief

To summarize, then, the problem of tuberculosis in children should be directed toward the education of the entire group in proper health habits, and toward the building of resistance of all against the onslaughts of tuberculosis which come from the lighting up of latent foci already within the young bodies of children.

This means, first of all, that health education and health training should become universal and that, just as reading, writing, arithmetic and geography are today a part of the standard curriculum of every school, so health training must become a part of these curricula if tuberculosis is to be controlled.

Similarly, this problem presupposes that medical supervision of school children must also become universal. By this is meant, not merely a slap-dash, go-as-you-please sort of supervision, but a careful overhauling, at least,

of all of those children who give evidence of falling below certain physical standards. Similarly and as a corollary to this provision, there must be proper nursing supervision in all the schools.

Given these two measures, the substandard child, whether openly tuberculous, or with a history of contact, or without such a history but with a certain degree of malnourishment, will receive prompt attention.

Other machinery is needed, however. For some, the nutrition class may be desirable. For all, teaching in nutrition is a necessity. For others, the open-air school may be essential. The time should come when, as pointed out by the New York State Commission on Ventilation in its recently published report, all schools should be ventilated with direct fresh air through the open window. The preventorium may be necessary for those children who need even more intensive treatment than the open-air school can provide, where night and day training is essential. Finally, for the open or manifest case, the sanatorium with proper school provision may be essential.

One thing is certain,—that, whether one thinks in terms of health education or of institutional provision, there is still, as has been pointed out before, very much to be done. This field of tuberculosis in children is a relatively uncultivated one.

370 Seventh Ave.

Red Cross Instruction in First Aid and Life Saving

Special Article

COVERING, as it does, a heretofore untilled field of effort, the class instruction which the Red Cross conducts in First Aid and Life-Saving as a continuing peace-time activity of this great war organization, is of marked interest to physicians.

The training, in time of peace, of civilian volunteers, as laymen are termed in Red Cross parlance, for subsequent service in time of emergency, has come to be regarded as a prime responsibility of all Red Cross societies. This training has been developed in the United States along unique yet highly practical and utilitarian lines, notable among which is that of First Aid. Many a victim of accident has died before a doctor could arrive; yet, about him have stood numerous persons who might possibly have saved his life, had they known what to do. Hence, the Red Cross Central Committee decided, in 1909, that systematic instruction of the laity in First Aid methods was an appropriate peace-time activity of the Red Cross.

The Red Cross First Aid bureau was subsequently organized and the Surgeon General of the Army detailed Colonel Charles Lynch, M. C., to National Red Cross Headquarters to develop the service. He wrote and published, the following year, the Red Cross textbook "First Aid to the Injured." From this beginning, the First Aid course has since been developed, until now 175,000 men and women in the United States have received certificates for having satisfactorily completed the course.

The instruction covers a period of ten lessons and the subject matter consists in general of the treatment of poisoning, sun-stroke, fainting, bruises, sprains and fractures, burns and shock; hemorrhage and the proper covering of wounds; artificial respiration; and the proper transportation of the severely wounded. The lessons are conducted by local physicians and by special field representatives who are physicians possessing special aptitude and training as instructors in Red Cross First Aid.

Highly practical applications of the general theories have been prepared. The textbook is now available in a railroad, an industrial, a fireman's, a woman's and a general edition. Some years ago, the Red Cross conducted extensive First Aid instruction among miners, but this proved so valuable that the U. S. Bureau of Mines has since taken it over and now publishes, free of charge, a new "Manual of First Aid Instruction for Miners," which is a compilation of the Red Cross "First Aid, Miner's Edition," and its own publication, "Advanced First Aid Instruction for Miners." The new "Manual" bears the endorsement of the U. S. Public Health Service and the National Safety Council and is the official guide for First Aid contests held by any of the groups named.

To railroad men, the Red Cross offers this instruction by means of an especially-equipped Red Cross First Aid Car, which is carried free of charge over the railroad systems. Two physicians are on duty on this car and have charge of the organization of classes. The car is equipped with a class room, demonstration apparatus and living quarters for the staff.

When it is pulled into a railroad yard, the physicians call the men together and interest them in taking instruction. These men in their turn interest others, and classes are then held. The car remains in the railroad yard for as long a time as it is necessary; it is then coupled onto a train and taken to another city or town on its itinerary.

Instruction to industrial groups is an active phase of Red Cross First Aid Service. Often, a class in First Aid is introduced into a factory or commercial company by a local Red Cross Chapter, as a demonstration of its value. As soon as the men and officials have come to understand its aims and the scope of its instruction, the corporation itself takes it over and maintains it as a permanent feature of the protection due its employes. Such a system has been followed by the telephone and telegraph companies throughout the country. It is especially valuable here because many of these men handle wires of high voltage.

Red Cross instruction in "water first aid" is known as Red Cross Life-Saving. Those who have taken this instruction and passed satisfactorily certain tests, are known as Red Cross Life-Savers. Of these, there are now 10,643 men, 6,875 women and 11,756 from the ranks of the American Junior Red Cross. These more than 29,000 expert swimmers, who have been trained in "water first aid", are usually members of local Life-Saving Corps and as such are pledged to go to the rescue of any whom they may see in peril in the water and to try and develop public sentiment and facilities for safe-guarding human life from drowning. Often, these local Corps patrol unprotected water-fronts in their communities, on the look-out for persons in distress in the water. These local Corps thus constitute invaluable agencies for making safe and popular the many health-giving and enjoyable water sports.

To become a Red Cross Life-Saver, a swimmer must first demonstrate before a special Red Cross examining committee his or her ability to enter the water from a standing position or a running dive; to tread water; to float; to swim one hundred yards; to dive and recover objects; to approach from the rear, front and under water an apparently drowning person; break his holds; keep him afloat while towing him to shore; carry him up on the beach; administer the Prone Pressure method of artificial respiration to induce natural breathing again and, if necessary, to give him First Aid.

To stimulate interest in Red Cross First Aid and Life-Saving, National Headquarters each year gives four money prizes and honorable mention to the most heroic rescues during that period in First Aid and in Life-Saving. This year, the First Aid first prize was won by Vernon Enos, who rescued from a ladder a fellow electrician who was in contact with 6,600 volts of electricity. The winner of the first prize in Life-Saving was Miss Mary Buhner. While swimming with a girl companion in Florida waters, the friend was attacked by a giant barracuda and was mortally wounded. Though she did not know when the huge fish might turn on her, Miss Buhner swam to the aid of her friend, splashing and calling for help from the shore. She managed to hold the friend above water in spite of heavy seas and, when the two girls were pulled into a boat sent to rescue them, she endeavored to apply a tourniquet. The wound, unfortunately, was too serious for the friend to survive.

Through its educational efforts in First Aid and in Life Saving, the Red Cross is accomplishing much by interesting its many members in these vital problems. Such efforts should earn for the Red Cross the interest and the support of physicians, especially during the Red Cross Roll Call, to be held between Armistice Day and Thanksgiving Day, November 11-29th.

Menstrual Disturbances Treated by Foreign Proteids

Introduced Parenterally*

By WILLIAM BUSCH and EDWARD AHLSWEDE, Hamburg, Germany

THE menstrual flow is one of those functions of the body that are influenced and regulated by internal secretions. It is well known that there exists a close relation between menstruation and the corpus luteum. Likewise, medical men have for long realized generally that menstruation is amenable to nervous influences and may be impressed by alterations in the composition of the blood; such as, for instance, a diminished hemoglobin content; a lessening in the number of red blood corpuscles and other factors.

Until recently, there existed but slight possibilities for modifying menstrual disturbances therapeutically. Improvement was obtained only if the nervous factor was strongly marked. Occasionally, preparations of ovarian substance brought about improvement which, though, was not lasting.

It is only with the progress of radiation therapy that the results became better. It is true that the success of Röntgen-ray treatment was slight and that, frequently, it was overshadowed by harmful sequelæ. However, better results became possible with applications of the quartz lamp. After treatment continued for many weeks, menstrual troubles often were allayed while, simultaneously, the blood picture was improved. Indeed, the percentage of hemoglobin and the number of erythrocytes found constitute a useful index for the success or the failure of the treatment.

Unfortunately, the results secured with quartz-light radiation are frequently neither lasting nor thorough. They depend upon the stimulation of the cell protoplasm, of the deeper layers of the skin, the corium and the subcutaneous connective tissue. The increased activity of these cells causes the production of internal-secretion products which are related to the ferments[1]. These products exert a regulating action upon organs with diversified function and structure; such as, for instance, the spleen, the bone marrow, the ovaries and testes, and so forth. This cell stimulation, brought about by ultraviolet rays, corresponds to the parenteral injection of protein substances qualitatively; however, quantitatively, that is, in the intensity of the reaction, there exist differences.

In consequence, it was natural to employ the remedies utilized for protein therapy in the treatment of menstrual disturbances. This has been done by Professor Esch[2] who reports good results. He succeeded in relieving entirely, or at least in markedly improving, hypermenorrhea, also oligomenorrhea and dysmenorrhea, by two injections of milk-protein solution, in doses of 5 Cc.

Aside from those preparations that are made from cow's milk, Esch utilized human milk which also was injected intramuscularly. However, the results observed after the injection of human milk were so entirely identical with those from cow's milk that there can be no question of a "specific" action.

On the other hand, injections of a pure casein preparation had different effects because of which the administration of "Caseosan" or of similar casein preparations is limited mainly to the treatment of amenorrhea.

Since it is not quite possible, in the case of casein injections, to avoid an anaphylactic effect absolutely, Esch warns against repeated intravenous injections. This caution we wish to emphasize and we, on our own part, administer only intramuscular treatments.

We have found a pure milk preparation of service, free from toxins and from bacteria, and to which we add variable quantities of casein solution. With this mixture, it is possible to reduce the danger of anaphylactic shock materially and to increase the effectiveness of the pure milk preparation.

Benefit From Hyperemia

It appears that the casein-milk preparation exerts a certain selective effect upon the ovarian function. This action which, in a way, might be called specific, can be emphasized materially if, *after* the injection, hyperemia of the ovaries is produced. Such a condition is readily caused in the extremities by means of stasis; in case of the ovaries, however, it is necessary to resort to indirect methods. These are mainly, diathermy, produced by the electric current, and an inflammatory hyperemia brought about by chemical means. Electric diathermy has yielded splendid re-

*From the Institute of Physical Therapy. O. Ahlswede, M. D., etc., London and Hamburg.

[1]Aman, Zur Proteinkörpertherapie, *Münch. Med. Woch*, 1921.

[2]P. Esch, *Zentralbl. f. Gynackol.*, 1920, Nr. 31.

sults and it may be recommended in every case providing that a pyosalpinx or similar acute purulent processes are not present. The production of inflammatory hyperemia by chemical means is less to be recommended. It occurs as a by-effect of the milk injection. Inflammatory hyperemia is induced by injections of turpentine with olive oil, according to Klingmüller's[3] method; but, very disagreeable by-effects have frequently been observed. One interesting fact has been pointed out by Esch, namely, that the turpentine injections arrest menorrhagia. Hence, while casein solutions stimulate the menstrual flow, the injection of turpentine and oil inhibits it. This surely is a very important difference in action.

Seemingly, it becomes more and more evident that protein substances injected parenterally and also other substances, which are chemically different, such as turpentine, collargol, cinchophen and others, are to be conceded a specific effect, according to their physicochemical peculiarities. Until these phenomena are sufficiently elucidated, it must suffice to discover by practical observation solutions of protein substances which exert a quasi specific effect upon certain organs.

Method of Treatment

The therapeutic indications for the treatment of menstrual disturbances may be summarized in this manner.

1.—Menorrhagia: Injection of milk-protein solution, if possible, with fairly high doses (3 Cc.) injected into the glutæus muscle. After two days, an injection of 5 Cc. is given. After two days more, 5 Cc. is to be injected on each side. In most cases, the second injection already is sufficiently effective, so as to render the larger dose of 10 Cc. unnecessary which, it must be conceded, is rather painful.

From one to two hours after each injection, an electric diathermy treatment is to be given and this may be continued twice weekly for about three weeks after the injection treatments.

2.—Oligomenorrhea, Amenorrhea. In these conditions, we suggest a combination of milk-protein solution and casein solution. The casein solutions are injected at the same time and in the same syringe with the milk preparation. The first dose is ½ Cc. of a 5-percent casein solution with 3 Cc. of milk; the second injection is increased up to not exceeding 2 Cc. of the 5-percent casein solution. It is not advisable to administer more than two injections at two-days' interval. The initial dose is to be 3 Cc., the second 5 Cc. If a third injection is necessary, we administer milk-protein alone, in order to eliminate any anaphylactic shock[4].

3.—Climacteric troubles are treated similarly to amenorrhea, but only with one milk-casein injection. Dysmenorrhea is influenced most successfully with pure milk-protein preparation, as is the case in menorrhagia. Diathermy may be employed in every case.

[3]Klingmüller, Ueber die Wirkung von Terpentinöleinspritzungen auf Eiterungen und Entzündungen. *Münch. Med. Woch.*, 1918.

[4]Lindig; Das Kasein als Heilmittel. *Münch. Med. Woch.*, 1919.

Hemoptysis Treated Rationally

And Then by Christian Science

By J. A. DUNGAN, Greeley, Colorado

I CANNOT be certain that a continuance of the treatment I had instituted and ordered continued for this patient, Mr. K., would have succeeded in saving his life, but every circumstance with which I am acquainted goes to indicate that that would have been the case.

It was about the seventeenth of last August, that I received a call to Mr. K.'s house, and found that he had suffered a severe hemorrhage from the lungs. At this time, he was spitting up some blood, mostly mixed with mucus, saliva and, later, with pus.

I recognized him as a young man I had known about town for some years. In fact, a year ago, I examined his sputum and found a good many germs of Gram-positive nature to each microscopic field, and I remember his expressing surprise upon being told that the germs found were tubercle bacilli together with the usual number of mixed-infection germs. He went on to state that he had supposed himself free from these germs for some years. It was about the time, when America went into the war with Germany, that this young man knew that he had pulmonary tuberculosis, the fact being discovered to him by one of the examining physicians of the Government. The opinions of this latter, however, as regards treatment, seem to me to have been somewhat dogmatic. Of course.

the young man was not accepted in the draft, but the piece of advice to which I object was the plan of "do nothing" which was inculcated into the head of this young patient by the medical officer.

As a result, and having been firmly impressed with this plan, he refused to take any treatment when I found that he still had the tubercle bacilli. A year ago, he started a bakery and was the chief baker himself which, of course, from the standpoint of the public as well as of his own interest, was a mighty unsanitary proposition. He worked long hours and, no doubt, his vital strength was greatly diminished at the time he had his recent hemorrhage.

Routine Treatment for Hemoptysis

Upon entering his room and finding him as described, I did the usual things; viz., slanted his body on pillows from the hips upward at an angle of thirty-five degrees, placed an ice bag over the site of the hemorrhage which was in the upper lobe of the right lung, gave him hypodermically 5 Cc. of hemostatic serum, prescribed codeine, ½ grain every four or five hours, and left orders with the nurse to repeat the hemostatic serum, 1 Cc. at a dose, every four hours. I also gave him cinnamon oil, 1 dram to 8 drams of alcohol, of which mixture 30 drops were to be taken on sugar, as an additional antihemorrhagic, every six hours. I enjoined absolute quiet upon his part, and a liquid diet.

The next day, there was no hemorrhage, but he began to empty a great deal of pus from a lung cavity, which continued for three or four days. At this time, I took him down off the pillows and instructed the nurse to keep him upon his right side with a small pillow under the right arm, as much as possible, following the suggestion of Webb* as to the postural treatment of tuberculosis. There was no bleeding of any moment from then on to the day of his death which occurred on the twelfth day of September.

The last time I saw this young man alive, was on Saturday, the eighth day of September. At that time, he expressed a strong desire to get back to his business, as he felt that he was amply well enough to do so, and as he felt also that the business would go to ruin without his attention. I told him that such a thing was absolutely impossible (referring, of course, to his getting back to the bakery) and gave it as my opinion that the bakery would do as well without him as with him. He was simply nervous, as all patients are likely to be in his condition.

I informed him also that this was no arbitrary notion of mine; that there were certain limits within which a rent in a blood-vessel in the lungs might sufficiently granulate over and heal, and that his getting up and about sooner than that time might cause a renewal of the hemorrhage which might possibly terminate fatally. The time set for him to remain quiet in bed was from six to nine weeks from the date of the hemorrhage, which was on the seventeenth day of August, and imposed upon him rest from three to six weeks to come. It was plain to me, however, that my talk did not get far with the audience to which it was presented. As he was a strong-headed chap who had always had apparently pretty much his own way, I judged that he would probably refuse to stay in bed. You get easily to understand, intuitively, when your preachments are not in accord with the opinions of those in the room, and this was the feeling I had as I left the place.

Enter the Christian Scientist

As a matter of fact, the next day, they called in a Christian Scientist, who promptly told him that there was not the least danger in getting out of bed and to his business as soon as possible. As is mostly the case, it was so here, that the practitioner was a woman. She gave the boy a little lecture, inculcating the idea into his head that there was no such thing as hemorrhage, no such thing as pain, disease, or danger, and that everything in this life is health, wealth, wisdom, happiness, prosperity, contentment, hope, faith, charity (though the practitioners of this cult eschew the latter strictly in their nefarious practice), love and, as Mark Twain says, "liver, lights, bones and truth," etc., etc. Naturally, this sort of talk made an instant hit with him. You all know how wonderfully easy it is to get a permanent stand-in with a consumptive patient, by the mere subterfuge of encouraging the delusion, which most of them have in their minds already, that they are certainly going to get well, that they really can't help but get well, that literally, every day in every way they are getting better and better. I have seen many of them consoled with this delusion almost up to the time of their last gasp.

Of course the species of hypnotism (which Mother Eddy filched from "Doctor" Quimby and for which, incidentally, she claimed at first that it cured her of spinal disease, although, later on, she repudiated it, cursing her

*Webb, Gerald B., Alexius M. Forster, and G. Burton Gilbert, "Postural Rest for Pulmonary Tuberculosis, *J. A. M. A.*, March 26, 1921, Vol. 76, pp. 846-849.

benefactor to the nethermost depths of hell) was at best only a passive sort of hypnotism or "malignant animal magnetism" as we have learned from the reverend Mother's own teachings.

Harking Back to Mesmer

A degenerate, a pervert, morally rotten to the core, we have in Mother Eddy (in my opinion) the longest-headed business woman of many centuries. And, while I do not question the honesty in their delusion of her followers as a body and even of many of her practitioners, there is no question in my mind that Mother Eddy herself did not long remain in ignorance of the fact that her system was no more than a trumped-up revamp of that of "Doctor" Mesmer who flourished a hundred years previously.

Dr. Mesmer, in order to induce the state of catalepsy or hypnotism or (as it has since come to be regarded) "mesmerism", would cause a glittering globe to be suspended from the ceiling. He would then direct the patient to recline before it in a chair, looking upon it and thinking upon it and by no means withdrawing eye or mind from it, until he should be so directed. Thus the patient, concentrating his gaze upon this glittering ball, a thing which in itself would soon tire the eye, and centralizing his mind upon its scintillant but vacuous nothingness, straining his mentality to think upon that in which inherently there was nothing thinkable, and working his imagination overtime to evolve from it something to repay his mental expenditure, found eventually that his mind as well as his eye had become thoroughly tired out, which was exactly the condition that the cunning Mesmer had all along been wishing to induce. He was undoubtedly acquainted with the physical fact that you cannot put something into something when that something is already full of something else; you must first induce a vacuity of the receptacle.

If, as in the present case, the patient's mind was already full of his own troubles, his mind must be diverted to something else, and this latter was something which was calculated, by a process of fatigue, to render the mind entirely vacant and therefore in an ideal condition for the implantation of the thoughts of Mesmer himself. When this desirable condition was arrived at, as would probably be signified by the patient's utter inability to keep his eyes open any longer as a result of this same process of fatigue, the operator, after having made a number of mystic passes, with his hands, around the patient's head in front of the patient's face and in long stroking motions adown his limbs, would place the tip of a forefinger between the victim's eyebrows, and say "You cannot open your eyes. You are going to sleep." In all probability, the patient was so tired that he had no wish to open his eyes, and, after a half-hearted attempt, he was willing to take the Doctor's dictum at its face value. Nothing would please him better at that moment than to be permitted to go to sleep, and, not making any special struggle to keep awake, he usually did so. At this time, Mesmer found it easy to implant suggestions and always made them conform to the requirements of his patient's condition. In this connection, it is only fair to Mesmer to suppose that he exerted the good judgment of first relieving the enormous tension on the patient's pocketbook, if any.

Now, the principal point I wish to make in all this is simply the fact that, if there had been anything in this bright and glittering ball to cause mental processes to work in logical sequence in the patient's mind, it would undoubtedly have failed of its purpose. The very fact that his efforts to cogitate concerning that which, or within which, inherently, was only vacuous nothingness, thus tiring out and rendering his mind also vacuous, was *facile princeps* among those elements which made for the success of the operation.

Now as to the other leg of the parallel.

Mrs. Eddy's Book

In the latter quarter of the nineteenth century, Mrs. Mary Baker Glover Patterson Eddy, the latter various segments of her name indicating matrimonial experiences of greater or lesser degrees of infelicity, and to which elongated nomenclature there should, if her biographers tell the truth, be added a fourth one, though in this latter case perhaps not so much the "matrimony" as the "ceremony" was lacking—Mrs. Eddy, I say, caused to be printed the first edition of a book purporting to be a key to the Scriptures and setting forth methods for the treating of the sick by mental processes.

I wish to say that I am taking the word of some of her representatives on the lecture platform for this latter statement. As a matter of fact, to the best of my judgment, the book does not set forth anything. After having gone through a great number of editions, all phenomenally profitable from a financial standpoint, *the book still fails to set forth anything!* I challenge the world to read the book through from first to last, from last to

first, from the middle both ways or in any other desired direction and be able, after the reading, to derive the least iota of sane or connected sense out of it. Its sentences, its phrases, its paragraphs and its pages vie with each other in the illimitableness of their meaninglessness!

Of course, the plain fact is that, if from cover to cover of this book there were a scintilla of sane, connected thought or one verbal hook upon which a person could hang a logical deduction, the whole fabric would automatically fall, because it would have signally failed of its purpose, to tire out by a process of fatigue the mind of the reader. Wordy excrescences of a psycho-pathologic mind, I regard the collection of words entitled "Science and Health With Key to the Scriptures" as the most monumental example in human history of that pathological contradiction, *"a diarrhea of words, and a constipation of ideas."*

The instructions to the patient which Mrs. Eddy put forth along with her book were to "read, to read, to reread, and to reread". It would have been an inspiration to one of the "old masters" if he could have caught and preserved the expression on the face of one of these victims after he had reread this thing for the five-hundredth time and turned his honest, simple countenance up to the sky and the benison of blessed sleep had settled down upon him while gentle snores began to issue regularly from his parted lips, betokening that the mind, which had, at the first, set out so nimbly in pursuit of what it took to be a real thought, had been doomed after this almost endless chase to remain as far as ever behind the rabbit! Now, after the vain mental effort, the mind having by its lengthy endeavors been made vacant and, therefore, favorable for the successful implantation of thoughts enters the Christian Science practitioner, usually a female with a broad and brilliant smile, and the suggestions relating to health, wealth, etc., etc., et al., are duly drilled into the fertile soil, which indeed may bring forth fruit fifty or even a hundred fold, speaking financially.

The cry of "stop thief" has ever been vociferously raised when the thief wished to detract attention from himself and to someone else, to aid his own escape from the clutches of indictment. And this was the whoop that Mother Mary set up when her cunning mind tumbled to the fact that she would properly be the subject of indictment by the students of medical history as having plagiarized her entire doctrines from Mesmer. The cry of stop thief was embodied in her pronouncement in one of her early editions of "Science and Health" with Key to the Bughouse, in this manner, that Christian Scientists the world over were warned collectively and severally that Christian Science had absolutely nothing in common with hypnotism, mesmerism, or malignant animal magnetism, and that any one caught hobnobbing with practitioners of that sort of devil's black magic would forthwith be fired out of the church—excommunicated, by gosh!!

It Worked Disastrously

At four o'clock on the morning of the twelfth of September, I was called to the telephone by a local undertaker, and asked if I would sign the death certificate of Mr. K—. He enlightened me to the extent that, on Sunday, a Christian Science practitioner had been installed as the advisor of the patient, that the advice given had been, to get up and around without fear of any consequences and that, about an hour since, he had, while sitting upon the edge of his bed, taken an alarming hemorrhage which ended in his death within five minutes.

I signed the death certificate!

1539 Tenth Ave.

Surgical Seminar

Conducted by GUSTAVUS M. BLECH.

Surgical Problem No. 11

Recapitulation of the Problem (see September issue, p. 670).

A YOUNG man, aged 25, and by occupation a typesetter, has been under a physician's care for a few days with uncertain diagnosis. The patient appears gravely ill and apathetic. The emaciated man tells you that he has not been feeling well for some time, that he suffered from abdominal discomfort. that he had been able to follow his profession until a few days ago when he became very weak and had to take to the bed. As a rule, he is constipated, although he has had occasional attacks of diarrhea.

The abdominal examination is negative except for a slight rigidity of the right rectus muscle and an ill-defined mass in the right side of the abdomen. Deep palpation over the region of the appendix causes the patient to complain that this causes him pain. The tongue is moist and free. The heart sounds are too faint to be interpreted, the lungs appear to be free. The pulse cannot be felt at either wrist. The patient answers all questions intelligently and displays an interest in your opinion of his condition.

The requirement called for the diagnosis and treatment.

Solution by Dr. Isaac E. Crack, of Hamilton, Ontario

We are very glad to hear again, after some time, from our esteemed colleague in Canada, particularly so because, in previous communications, he has always shown a deep diagnostic acumen, which few members of our profession possess. Dr. Crack writes:

The picture here is that of a very sick man and one could hardly venture a diagnosis without knowing what the patient had experienced during the "few days" he had been under the care of a physician. Had he a rise of temperature, vomiting, etc?

This may be the terminal stage of a neglected case of appendicitis. The apathetic condition of the patient might explain the comparatively negative findings in the abdomen.

The history, however, of failing health for some time, with alternating diarrhea and constipation, would point to one of two possible conditions: either pericecal tuberculosis or a malignant growth. An examination of the stools, a blood count and a uranalysis would be necessary before giving a very definite opinion. A search for some other focus of tuberculosis should be made.

Treatment: The condition seems almost hopeless. I should recommend camphor hypodermically, and rectal salines. Not being a surgeon, I should call in the best possible specialist in abdominal surgery, who might see fit to explore under a local anesthetic, with a possible chance of evacuating some pus from the indefinite mass, and thus relieve the patient. Let me add that I am glad to see the Seminar continued.

Solution by Dr. R. B. Gray, Bay Shore, N. Y.

The following is my answer to Surgical Problem No. 11: Chronic lead poisoning, (plumbism or saturnism). The diagnosis is based on wasting, encephalopathy, abdominal distress and tenderness, weakness, diarrhea alternating with constipation and the man's occupation as a typesetter.

There is no reason why a typesetter could not have other than an occupational disease, so that we can not come out flat-footed for plumbism. We must make a differential diagnosis from conditions with similar symptoms such as, General Paresis, Epilepsy, Meningitis, Uremia; and the Encephalitis of Lead (Litharge) must be distinguished from Lethargic Encephalitis.

In an early edition of Forcheimer's "Prophylaxis and Treatment of Internal Diseases," there is a warning against making "snap" diagnoses. A musician had emphysema; so, his doctor, thinking he played a wind instrument, attributed it to his profession, whereas he proved to be a violinist!

The occupation of the patient makes us think of lead poisoning, as we are told that compositors, stereotypers and linotypers are prone to this condition, getting it through

the alimentary tract either by eating their lunches in the workroom or without washing their hands. The skin, if not properly and often enough cleansed, is a potent source of danger Fumes and dust are inhaled and, so, the respiratory tract should be guarded.

Encephalopathy, while more frequent in women, is found in men and ranges in severity from headache to coma and death with postmortem findings of multiple petechial hemorrhages into the brain substance.

The abdominal discomfort may be a forerunner of the characteristic colic (it usually starts around the umbilicus); the tenderness can be traced along the course of the colon and may be accentuated at the appendix.

The wasted facial appearance is due to the loss of fat about the orbits and buccinators.

Constipation is a constant and almost intractable symptom but may alternate with diarrhea.

The cardiovascular findings are unusual, as there are commonly signs of cardiac enlargement, slow pulse and high blood pressure, all the signs of arteriosclerosis.

We should do a complete blood examination including Wassermann, and a lumbar puncture. The blood examination will exclude pernicious anemia. We find that the hemoglobin is relatively high but not above unity, as in Addison's anemia; also basophilic degeneration of the reds as much as 100: 1,000,000; poikilocytes, and (very rarely) nucleated reds, but no megaloblasts.

One should look for the lead line on the gums, particularly the papillae between the teeth. Painless neuritis resulting in lead palsy, tending to wrist drop, foot drop, wasting of shoulder girdle, etc. Blood-pressure readings should be taken. Evidence of granular kidney may be found.

Excretions including feces and urine should be tested for lead. The electrochemical method is the best. H_2S can be used and forms dark PbS.

Treatment: Masterly indifference should not obtain here. The treatment of the individual case may profit us nothing, may be wasted effort, but will show us that *prophylaxis* is what we want. A case developed as far as this one can, like the canary in mining, he used as a warning to others. If, in spite of an educational campaign, understandable lectures, demonstrations and posters, the worker still persists in jeopardizing the life of himself and, what is more important, of others, he should, like any would-be suicide, be protected against himself. This may be accomplished by forcing him to change his occupation. There are some things that can be put up to the employer: baths, eating rooms, and means of carrying off dust and fumes, competent, periodic medical examinations and constant, watchful supervision. These precautions will prove an economic asset.

Drugs recommended.—Sulphur, magnesium sulphate, potassium or sodium iodide, alum, dilute sulphuric acid, atropine, calomel, croton oil, morphine, opium. We may try benzyl benzoate; strychnine nitrate. Electricity and massage can be tried.

Potassium and sodium iodide should be used with caution. The aid they give in elimination may be neutralized, as the compound formed is soluble and will be reabsorbed unless we give $MgSO_4$ which forms an insoluble compound and then washes it from the intestinal tract.

Lemonade acidulated with dilute sulphuric acid has been recommended, but, as sulphuric acid coats lead over with an insoluble lead sulphate (in vitro), it should be given with caution.

Constipation can be somewhat relieved by enemas of warm water, and any of the liquid paraffine preparations can be used by mouth.

Solution by Dr. Emil C. Junger, Soldier, Iowa

Dr. Junger reviews the phenomena as seen on the first consultation and believes that, taken all in all, they point to perforation of some of the hollow viscera, in consequence of which there is an abdominal hemorrhage. Dr. Junger very naturally says that he would get into that belly within five minutes, as otherwise the patient would either die from the hemorrhage or, if this prove non-fatal, from a subsequent peritonitis.

Editorial Comment and Solution of the Problem

It is noteworthy that, of a total of 27 answers sent in, only one gave the correct diagnosis, and the honor belongs to Dr. Crack.

Frankly, I had my misgivings when I presented the eleventh problem. There were not enough data to stand scientific criticism and, in many other respects, non-critical readers might have shrugged their shoulders and said to themselves: Oh, what does Blech think we are, mind-readers?

But, when one considers that I saw the case under discussion precisely under conditions as described and that I saw no more

than I described, and tried to represent the patient as I saw him, and that I still managed to arrive at a more or less exact diagnosis, confirmed as such by an expert pathologist who made the postmortem section, there is no reason why my readers should not be able to do likewise.

The circumstances are as follows: Shortly after I had arrived at Camp Custer, there was to be a conference of medical officers on a field near the camp hospital, which contained a number of ward tents, operating tent, pharmacy tent, etc.

As I came close to the tents with a medical friend, the attending surgeon asked me to look at several patients whom he called to my side and then asked me to look at a very sick boy. I stepped to his cot in one of the ward tents. What I found, I told you. I immediately thought of lead poisoning, looked for the typical gray-whitish line of the gums, but found nothing and eventually made up my mind that the boy was in extremis and dying from tuberculosis of the peritoneum, with a probable origin in the appendiceal region. I advised a section right then and there under local anesthesia, volunteered to do it for the medical officers in charge if they saw so fit; but, in view of the fact that the patient was a National Guard soldier, sent to camp for two weeks' instruction, and that his condition appeared desperate if not hopeless, no operation was performed —perhaps wisely so—and he died promptly in less than forty-eight hours.

Now, what was it that made me make the diagnosis? Two things struck me as almost pathognomonic. First, the absence of pulse as far as the palpating finger was concerned, the facies and the free sensorium; and, second, the apathy of the patient to his condition, though he could be aroused enough to take an interest in himself.

There was no question that the man was extremely toxic. Yet, it was not the type as we see it presented in sepsis. There was nothing acute about the entire aspect of the case. Here was a man whose life vigor was fluttering away, and he was content with himself and the world, indifferent, free from pain, yet mentally alert whenever aroused from his apathy. A novelist could not have wanted a better subject for a man slowly dying from consumption.

That the entire trouble was abdominal, was palpable. The chronicity may have suggested malignancy to many, but this is seen extremely seldom in a young individual and, besides, any malignancy of long standing would have shown more definite lesions than an ill-defined mass, and would, in addition, have produced secondary phenomena of stasis.

It is evident that Dr. Crack and I are so agreed that further comment on his paper is unnecessary. With reference to Dr. Gray's exposition, which is accomplished with his well-known thoroughness, everything he says is splendid, but the fact remains that we could have excluded lead poisoning almost at once, because, had there been any evidence of it, I should have so stated. That, in doubtful cases, all sorts of laboratory tests are essential to elucidate certain points and to aid in the establishment of a scientifically exact diagnosis, is admitted. But, inasmuch as the problem is not brought up to a period when these can be obtained, we must, in our solution, get along without these otherwise very valuable aids.

If without them a diagnosis is out of the question, we have nothing fit for our exercises, as, indeed, I select only such cases which allow of some sort of diagnosis with the means available at the moment of the problem.

Dr. Junger's diagnosis would be all right, had there been any mention of excruciating pain or evidence of collapse. A patient whose pulses can not be felt and who is lying quietly on his cot, indifferent to his surroundings, and yet converses with you rationally is not in collapse. In secondary hemorrhages producing acute anemia, we have a catastrophy which heralds itself as such. There is pallor, prostration, restlessness, anxiety, air-hunger, tossing, cold sweat and what not—symptoms which strike terror into the heart of the surgeon, but not, and never, the atmosphere of calmly approaching death, though it may be many hours distant.

Only one more word relative to the therapy, since that was part of the requirement. In private practice, I should have opened the abdomen, and, as soon as the diagnosis had been confirmed by inspection, I should have poured in a weak emulsion of sterilized iodoform-glycerine, introduced one or two strips of iodoform gauze as drains, and then closed the abdomen without doing a thing more except to give the usual aftercare for laparotomy, plus stimulation.

This should not be construed as criticism of the regular-army medical officers of the camp hospital, because the man was an outsider, and authority for an operation, in time to be of any good, could not be obtained.

Their official positions made it difficult for them to risk criticism by members of the patient's family. How such a man was permitted to join the National Guard, is beyond me. It certainly shows that the enlistment examination was a perfunctory affair when it took place, if there was such a thing as a physical examination by a medical officer.

I do not say that a laparotomy would have saved the man's life, but I have seen some marvelous recoveries following a mere abdominal section in certain cases of tuberculous peritonitis, and I feel that, unless a man is absolutely moribund, he is entitled to the only chance—that of letting sun-rays into his abdominal cavity. *Quien sabe?* May be another life could have been saved by surgery.

Surgical Problem No. 12

The following problem is presented by Dr. M. E. Bovee, of Port Huron, Mich. At the time of writing this, I have not asked for the diagnosis, though I have made up my mind. However, I have asked for the solution by Dr. Bovee, and I shall merely act as a referee. Again and earnestly, I ask any readers to send in their solutions, for publication or otherwise, as they wish, but above all—promptly.

A young man, aged 19, was stricken with what his physician called pneumonia. His condition remained unchanged for two months, after which period, Dr. Bovee saw him for the first time. The patient looked very ill, face pinched, temperature ranging from 99 degrees to 102 degrees F; pulse rate, 135 to 140. Heart pulsation is noted on the right side of the chest, the patient suffers from dyspnea, anorexia and has a moderate cough. The patient is emaciated. Percussion reveals dullness around the heart and tympany to the left of the heart. Posteriorly, there are some areas with dullness. Auscultation reveals diminished breath sounds.

Aspiration shows that the needle seems to fall into space and nothing but air can be withdrawn.

Required: Diagnosis.

31 N. State St.

WHILE the increase in the virulence of smallpox has been confined largely to a group of western states, this has an important bearing on the safety of the rest of the population in the United States and Canada. There is no certainty that this virulent type of the disease will not spread to populations in the eastern section of the country, especially to those states where by reason of anti-vaccination propaganda, there has been a steady rise in the number of unprotected persons in the population. Among such populations, we may again have an experience similar to that which occurred in Montreal, in 1885-1886. Following the introduction of one case of smallpox from Chicago, the disease spread through the city and within nine months, thousands of cases occurred and 3,164 persons died. Vaccination, performed under conditions prescribed by the United States Public Health Service, and the state, provincial, and municipal departments of health, is the only certain protection against the severe type of the disease which seems now to have obtained a firm foothold in certain of our American states.—*Statistical Bulletin, Metropolitan Life Insurance Co.* June, 1923.

The General Practitioner

Talks About Professional and Personal Problems
Conducted by WM. RITTENHOUSE.

On Making Good

THE Chicago Association of Commerce has published a report made to it by A. D. White, statistician of Swift & Company, dealing with the reasons why 90 percent of the boys and girls who enter business life lose their first jobs. This report was sent to the various high-school papers with a request to publish. It is so full of meat that it is not easily condensed, and it is worthy of being quoted in full:

"Every one knows that such qualities as Honesty, Truthfulness, Good Health and Clean Habits of Living are essential characteristics of young men or women who hope to build successful careers in business. High school pupils hear these mentioned so frequently by their principals and teachers that it all gets to be an old story after a while. As one boy impatiently remarked recently, 'They're paid to tell us that stuff. It's all part of their job. What a business man wants is a fellow that can deliver the goods. He doesn't care about the rest.'

"But, doesn't he? Does he keep in his employ the salesman who doubles the sales in his territory by lying about the quality of his goods? He does not! Does he retain the foreman in his factory who cuts production costs by sacrificing the quality of the product? He does not! He wants the fellow who can deliver the goods by honest, straightforward methods that will bring credit upon his house, or he will not last long.

"Ninety percent of all cases in which boys and girls fail to make good in their first position are due to one of five causes. Here they are. Look them over carefully; for, if you fall down, the chances are nine out of ten that it will be because you have stumbled in one of these five ways:

"1. *Lack of a Sense of Responsibility,* as shown by neglect of work, failure to put the most important things first, and the expression of a general 'I should worry' attitude.

"2. *Unwillingness to Work Hard,* as shown by being late to work, stretching the lunch hour, and stealing a few minutes at the end of the day, watching the clock, and wasting the time by social conversations and telephone calls during business hours.

"3. *Lack of Thoroughness,* indicated most frequently by unwillingness to begin at the bottom and to go through the drudgery of mastering each step before going ahead.

"4. *False Notions About Salaries and Promotions.* The real secret of promotion lies in constantly doing more than you are being paid to do. Keep yourself underpaid. As soon as you are overpaid, you are bound to go backward.

"5. *Lack of Principle,* shown by concealment of mistakes, untruthfulness, and the constant making of excuses.

"Avoid these five pitfalls and you will not have the unfortunate experiences that fall to the lot of so many boys and girls when they first enter commerce or industry."

Under the first head, we might add an unwillingness to accept advice. Many young people seem to regard the most friendly advice as "preaching". It is difficult for them to grasp the idea that certain principles lie at the bottom of all success, and that this socalled "preaching" is merely a friendly attempt by those who have had experience to help those who have not.

Most young people pass through a time of life when they are exceedingly impervious to advice and are very sure of the infallibility of their own judgment. It is then that the "I should worry" attitude is apt to show itself. If they do not cure themselves of it by self-control, their chances of a sucessful career are very slim. It requires much tact to present the matter to them in such a way as to win their confidence.

Nevertheless, this difficulty should not be allowed to prevent putting such valuable advice as that contained in Mr. White's report

before every young man and every young woman at the threshold of a business career. They may not fully appreciate its value and force at the time, but they will later, particularly if their disregard of its principles should cause them to lose their first position. That "I should worry" attitude, that superiority to advice, is often merely superficial, put on for the purpose of impressing their comrades.

Frequent Repetition

The publication of the report in every high School paper is a step in the right direction, but something more permanent and continuous would seem to be desirable. In my boyhood, the expression, "line upon line and precept upon precept" was often heard. I think, the parents and teachers of half a century ago had a deeper appreciation of the value of repetition, of the importance of keeping everlastingly at it, than have most educators today. We have so much good material published that much of it gets laid aside after a single reading. If this report appears in the publications of this year, what about the pupils who will graduate next year and in the succeeding years? It is equally valuable to them, but how shall we make certain that it will be placed before them?

The School Readers of a couple of generations ago made use of a plan that is receiving less attention at the present day. Those Readers, besides extracts from general literature, contained lessons of two other types of great value, namely, lessons directed towards the moral elevation of the pupil and also lessons containing simple instruction in the sciences. The educators who prepared those textbooks recognized the very important fact that the School Reader was for many pupils the only introduction to scientific knowledge that they would ever get. They also recognized the great value of keeping a truth constantly before the mind.

Some educators argued that the School Reader should be made up exclusively of general literature, and that scientific or moral instruction should not be mixed in. They claimed that it would not be possible to give more than a smattering of scientific knowledge in this way. But a smattering of a science may excite a curiosity to know more—it may rouse the desire to study the sciences themselves.

When I look back over my own school days, I am very grateful that my School Readers contained simple lessons on the sciences, especially the natural sciences. I doubt very much whether my school-fellows and myself would ever have taken any particular interest in the sciences, had not our boyish interest been aroused and stimulated by the scientific lessons found in our School Readers.

Besides, many a lesson of moral or economic instruction was the more strongly impressed upon our young minds by the fact that we not merely read it once, but had it constantly before us.

So, it seems to me that a vast amount of good could be accomplished by putting the substance of a report like the one distributed by the Association of Commerce into the Readers used in the higher grades of the public schools. It would give the matter a permanency that would greatly extend its usefulness.

Unless something of the sort can be done, we will find that, after a year or two, this report will be forgotten, and things will go along in the same old way.

Cultivate a Conscience

Just now, it is the custom to attribute nearly everything that goes wrong in the world to the influence of the Great War. It cannot be denied that that influence has been very demoralizing in many ways, largely in lowering moral standards. The mental and moral attitude of the generation just now entering upon the stage of action is characterized by a lack of conscience to a degree rather shocking to those who have been observing events for half a century. But, it is easy to go too far in condemning the present generation of youth. They do not differ greatly from those who went before. It has always been necessary for parents and educators to carry on an active campaign for training crooked twigs to grow straight.

The remedy for most of the faults mentioned in Mr. White's report can be summed up in a short phrase of very few words: namely, *an active, cultivated conscience;* to which might be added, getting rid of false standards regarding work. Not only young people, but older ones as well, could greatly increase their success and satisfaction in life by looking upon work as a wholesome duty instead of a disagreeable curse laid upon us against our will and to be shirked whenever possible. This false idea regarding work lies at the bottom of three-fourths of the misery, poverty, vice and crime that curse the world today. After all it comes back to the home: If all parents would teach their children, from early childhood, that good work well done is the most satisfying thing in life, they would give them the surest foundation upon which

to build a career of usefulness and happiness.

The reference to being overpaid, in Section 4 of the above-mentioned Report, recalls to my mind a conversation I had with a fruit grower some weeks ago. We had been discussing the discouraging outlook which confronts the farmer, with high prices for everything he has to buy and low prices for everything he has to sell. This condition has prevailed to a considerable extent during the last two seasons. Labor is hard to get and demands high wages and absurdly short hours; fertilizer is expensive and yet it must be had; in fact, almost everything needed on the farm is very costly, while the market price of fruit is so low that not infrequently the farmer finds that, after paying for the picking, the baskets and the freight, there is little or nothing left to compensate him for his year's work. He would have been better off to have left the fruit to rot on the trees and vines; and this was done in many cases.

This farmer said: "We have been pretty hard hit the last two seasons. Yet, in one sense, it is a blessing in disguise. A few years ago, our returns were large, and everybody had plenty of money. Some of us took it for granted that this condition would continue permanently. We yielded to the temptation to spend freely, and especially did our families fall into the same habit. Now we are getting our lesson. For every person who can bear prosperity unspoiled, there are a score who cannot. When we get over these strenuous times, as I have no doubt we shall, there will be a number of farmers who will give their attention to laying up something for a rainy day before they go to Florida for the winters."

Clerks in commercial establishments could learn a lesson from the farmers' experience. When they are getting a good salary, they are apt to forget that they must give a degree of service to justify it. When they feel themselves underpaid, they should take it as a spur to give a kind of service that will naturally suggest an increase.

Speaking of Eclipses

When an eclipse occurs, I am always interested, not so much in the eclipse itself, which is a very simple and natural affair, as in the popular attitude towards this phenomenon. In former times, eclipses were regarded by the world in general with superstitious awe. They were supposed to be portents, warnings of grave disasters threatening the human race. Literature abounds with references to the awe which these simple phenomena inspired in the ignorant and superstitious. Shakespeare, in "Macbeth", makes one of the witches name the ingredients of the hell-broth which they are preparing to work their spell. One of those ingredients is, "Slips of yew slivered in the moon's eclipse". As yew trees were formerly planted in churchyards somewhat generally, the tree by this fact aquired an uncanny importance in the minds of the ignorant, and, when fragments of the wood were slivered off during an eclipse of the moon, they became still more potent for the working of evil charms.

Superstition dies slowly and hard. Even at the present day, an eclipse excites a feeling of awe in the popular mind. Take a group of people gathered on the street to watch an eclipse of the sun through a piece of smoked glass. A study of their faces and expressions reveals a frame of mind different from the ordinary. The awe inspired in the minds of our forefathers by an eclipse has not all disappeared. It shows how deeply superstition is ingrained into the human mind.

On the occasion of the recent eclipse of the sun, the government of Mexico took the precaution of spreading information beforehand among the people regarding the coming event. They feared that, otherwise, a panic might occur among the ignorant peons. The schools were ordered to give out the fact that, on a certain date, an eclipse would occur and that it would do no harm.

Wonders of Astronomy

It would scarcely be possible to imagine a more simple phenomenon than an eclipse. The moon passes between us and the sun, hiding it wholly or partially. That is an eclipse of the sun—a solid body obscuring a lamp.

The earth passes between the sun and the moon, and our shadow falls on the moon, darkening it for an hour or so. That is an eclipse of the moon—like a tree's shadow falling on the ground. All very simple.

But, there is one aspect of an eclipse that is always interesting, I might say, wonderful, to me. That is, the marvellous accuracy of the instruments and calculations employed by astronomers in determining the exact time and place of every eclipse. This accuracy seems almost miraculous. That the occurrence of an eclipse can be predicted any number of years ahead, or can be exactly fixed any number of years in the past, determining to a second the time of beginning and ending at any given spot on the earth's surface—this is one of the wonders of modern science. An opaque object *must* cast a shadow in the pres-

ence of a light, and that shadow *must* fall somewhere, and there is really nothing wonderful about this. But, that human brains can devise, and human hands construct, instruments so exact as to unravel the complicated movements of the heavenly bodies—these are true wonders.

The occurrence of an eclipse and the popular method of observing it usually recalls to my memory an incident that occurred in a little village, down East, many years ago. There was a well-known character in the place, popularly known as "Jim". At the time of the story, Jim occupied the position of bartender at the village inn. Jim was a good fellow in his way and was generally liked. He dearly loved a joke, especially if it was on the other fellow. He could take a joke gracefully if it was on himself, but he was so wary that the boys rarely succeeded in putting one over on him.

But, at last, the opportunity came to settle old scores with liberal interest added to the principal.

Jim was rather fond of the goods he dispensed and, occasionally, it would happen that it was necessary to stow him away in an upper chamber for several hours, without regard to the orthodox hour of bedtime.

One day, so many of his old friends called and incidentally invited him to "take something yourself" that, by noon, Jim was no longer useful in his customary place behind the bar. So, the proprietor had him stowed away in his little attic bedroom to "sleep it off".

Jim awoke just as twilight was setting in. He came downstairs, bidding everybody "Good Morning!" under the impression that he had slept the night through. The boys "caught on" at once and saw an opportunity. They said to him, "Why, Jim, have you forgotten that this is the day of the eclipse? Get a piece of smoked glass and get out into the street where you can get a good view of it!"

Jim at once hunted up a piece of broken window pane and a tallow candle, and proceeded to give the former a thick coating of soot. Then he got out into the middle of the street where he had an unobstructed view of the eastern sky. The crowd grew larger and larger and, by unanimous consent kept "mum". In the meantime, the darkness increased upon the earth and likewise upon Jim's nose, as he was too excited to notice which side of the glass he turned towards his face. Finally, his want of success in locating the "eclipse", and the ill-suppressed snickers of the crowd caused the fact to dawn upon him that he had been "sold". He was utterly crushed and, for many a year, the mere mention of an eclipse was enough to tame him even in his most hilarious moods.

The Poets and the Moon

It is interesting to examine the strange statements made by some poets and novelists regarding the actions of the moon. Indeed, we might be tempted to ascribe these statements to a peculiar form of *lunacy* if the pun be allowable.

One of the most remarkable of these slips of the pen was by Coleridge in "The Rime of the Ancient Mariner." After the spectre bark had disappeared he watched

> "Till clomb above the eastern bar
> The horned moon with one bright star
> Within the nether tip."

Astounding! A star between the horns of the crescent moon! The dark part of the moon would seem to have been transparent in Coleridge's day! But, that is not the whole of the wonder; to see the new moon rise in the east would be something worth seeing.

But Coleridge has plenty of company. So far as I know, he is the only one who has caught and caged a star between the horns of the crescent moon, but there are plenty of others who make the new moon rise in the east, including Sheila Kaye-Smith and Zane Grey. A writer in *Scribner's* is authority for the statement that Rider Haggard has a full moon rising in the west, and also states that Galsworthy has the wife of the "Man of Property" sitting at dusk on a bench in Richmond Park, when "suddenly the moon appeared, young and tender, floating up on her back from behind a tree." It would be interesting to see a young moon moving *up*. They usually move *down*.

Hall Caine was, I believe, the first to discover another eccentricity of the satellite. He has a pair of lovers sit on deck "under the moon and stars." The next night, the lovers are there again, and so are the stars, but the moon fails to keep his appointment. "The gray twilight came down from the northern heavens, and then night fell—a dark night without moon, but with a world of stars." The question is: Where was the moon? The stars being on hand is proof that the sky was clear, but the man in the moon must have been gallivanting elsewhere!

2920 Warren Ave.

Good Medicine

Let us learn as we go, but not forget what we know

Conducted by GEORGE H. CANDLER

The 'Nth-Power Specialist

MY friend, H. O'Halloran, M. A., M. D., is unquestionably a man of parts. He also (like all unusually clever men) has weaknesses. Now and again, he gets disgusted with things in general and "takes a few." After about the third, he begins to see things not only as they are but as he would have them be, and tells what he sees or thinks with more or less clarity. When he announces that "this is O'Halloran a-hollerin'", it is a pretty good idea to listen for about that time—or a little later—you will hear things which will perhaps be good for your soul even though they may startle it a little. At this stage, O'Halloran says what he feels like saying and, with much gusto and fluency, consigns Censors to Gehenna—capital H, please!

At our last *converzatione* he had a few remarks to make not only about the Profession and its shortcomings but Specialists and Specialization generally. I have made a feeble but conscientious effort to report O'Halloran accurately and (if my notes are correct) here is about what he said: "If yez really want to know why the Doctor is getting docked and havin' his tail sthepped upon by pussy-practicians and public alike, I'll tell ye. It is because he's evolutin' and is now passing through the damphool stage. He has become so chock full of information that he can't lay his hand immediately upon a few useful facts and instead of cheerfully stopping a bellyache, he has to decide first whether the pain is due to a kink in the jejunum, an aberrant rectal ampulla, or just plain gas. He has been stumbling over himself and telling the dear public, that he alone doesn't know much and can't *do* much, for so long that the fearless four-flushers, who come along and announce that 'they-know-it-all-and-can-do-it-better,' anyhow, get a respectful hearing—and a whole lot of the public's cash. Soon they'll have the undertakers paying them a commission! The dhoctors brought the condition down upon thimselves whin they got so blamed over-intellectual and scientific that they couldn't take off a smashed finger or toe without two assistants and a trained nurse or two in attendance, or remove a few adenoids and a couple of tonsils without carrying the patient to some hospital and going through a course of stunts which very much resemble a sacrificial ceremonial. Why, me laddie buck, I rhead only th' other day of a physician taking an obstetrician with him to deliver a woman supposed to be in natural labor! The obstetrician was not to deliver the child but to pass upon the position, conditions, etc., etc., and generally counsel and advise the physician through the tryin' ordeal. Wouldn't that make you have faith in the Naturopaths? What the Sam Hill was the physician there for- Or, if he was a practician who couldn't pract, why didn't he stay home and outline a diet for some neurasthenic and let the obstetrician obstet? What he'd do, or who he'd take with him, if Johnny had a phimosis, Hiven alone knows. I suppose there'd be a surgeon, an orificialist, a G-U man and a pediatrist along innyhow. Maybe he'd even add a masseur. You or I'd just have our fingers and some oil and, if th' worst came to th' worst, we might use a director and a pair of forceps—maybe a bistoury. We're so d——— behindhand that we'd attempt a delivery, do any minor surgical work, and give what we believed to be the appropriate treatment in practically any old pathological condition we believed we could tackle. An', Hiven be praised, we had a reasonable confidence in our own ability! These too highly developed Doctors who can't practice except in a limited area have played the devil with thimselves, us, and the people generally.

"An' it would same, there is only one way out for the man who objects to driving a Lizzie and seein' his wife in a last year's coat and near-silk hosiery. That is, to beat the Specialist at his own game and out-specialize him. Hince it's me to attain the 'Nth Power—

and still do as well as I can the very things I have been doing more or less satisfactorily for so long I hate to think about it.

"Here's th' plans and specifications as I have them doped out. First, I'll take advantage of the reading public's avidity for new and BIG things and incorporate GENERAL PHYSICAL REPAIRS: UNLIMITED. This corporate body will erect a building at least fourteen stories high and each floor will be occupied by specialists who really believe that they can comprehend and do something with some part of the human body. The patient will enter naturally upon the ground floor and then be shot up on an elevator to the top, where his record will be taken and his resources ascertained. He will then be started on his way down, and out. The length of time this journey will take will depend, of course, upon what he has. Anyhow, the gintlemen who specialize in pediculosis capitis, alopecia and aural eczema will be on the top floor, prepared to exercise such talents as God gave them—for a consideration. Below them will be the facial and beauty specialists. Then will come the eye and ear men with their nasal brethren. Next, the patint will arrive at the Dental Suite with x-ray boudoirs attached. Here, doubtless, he will ascertain that he has pyorrhea (*not* diarrhea, please, that comes further down), and will part with some cherished possession. Later, the Throat Solons will separate him from his tonsils (unless he has already been jack-rolled) and he will be ready to descend to the next floor where the Pulmonists and Thoracic Sharks will decide whether he is a 'lunger' or not. Leaving them reluctantly, he will cross over to the Cardiologist, stopping en route for an hour or two to have the Thyroidist ascertain whether or no a goiter can be discovered—or at least symptoms of some glandular abnormality. Then he will enter the abode of the Abdominalists and, what these genial gentlemen won't find out about his interior economy, won't be worth considering—except by the Surgeons who may be compelled to collaborate later. The G-U man, the Orificialist and Gynecologist (if the patient is built that way) will next entertain the traveler and, before he gets to the Foot specialist and Chiropodist, he will, of course, have been studied externally by the Dermatologist and eternally (almost) by the Neurologist—who can, if he feels it desirable, have in consultation a most versatile and eloquent Alienist. One of these, at least, will always be on duty on the mezzanine floor.

"Women contemplating an addition to the population will (after their condition has been definitely ascertained) be handed over to the Obstetricians in the Annex. Their infants, immediately after birth, will be weighed, measured, callibrated, examined by a Phrenologist and an Occupational Expert and placed upon a scientifically balanced ration devised by the Rational Rationists of the U. S. A. (God Forgive Them For They Know Not What They Do!). Under no circumstances will the use of mother's milk be permitted if enough goats are available. Failing these, a desiccated bovine product may be employed. Thus, at one stroke, we conserve the figure of the mother and preserve the personality of the child from any impression it might receive from the maternal lacteal fluid. This, me lad, is one of the greatest steps towards the refinement of the race that will ever be taken.

"Anyhow, the ordinary ambulant patient, or even the male or female subject on a stretcher, having reached the main floor will now be confronted by MY sign,—'H. O'HALLORAN, M. D., 'NTH-POWER SPECIALIST'! *My* business will be to take the remains and, by reasonable ordinary commonsense procedure, restore the poor divils to as nearly a natural condition as is possible. By the time I get them they'll have seen all the regional virtuosos they *can* see. They'll have been x-rayed, Finsen Lighted, transilluminated and looked up into, down into, and clean through so thoroughly that they will feel quite sure nothing has been missed—though they themselves may miss quite a number of their intimate possessions. Having had intensive, extensive and expensive attention, they will probably be in a frame of mind to listen appreciatively to some plain talk delivered in an ordinary tone of voice by a Doctor who studies the individual, not a mere section of his anatomy.

"Instead of their being told that I don't undertake this, that or the other branch of practice and must refer them to the aurist, rhinologist, proctologist, oculist, dentist, internist, neurologist, or Eminent Surgeon, they will have met *all* these short-order artists and being more or less content to have escaped alive will be satisfied to be treated upon general principles.

"Th' only drawback to the plan that I can see is the possibility of my clientele being so demonetized by the time I get them that I'll still have to drive a second-hand Ford, while my confreres upstairs career around in Rolls Royces and Locomobiles.

(Continued on page 843)

Let's Talk it Over

Dr. Bryce's Talks

Medical Misfits

SOME five or six years after the close of the war between the States, a man walked into my office one morning and introduced himself as Dr. C. He appeared to be between fifty and sixty years of age, his clothing was very plain and threadbare, but clean and brushed, and his well-worn shoes were polished. It could be seen that he was trying to put the "best foot foremost", and evidently had been used to better days. He came to the point at once and asked me in a nervous voice:

"Doctor, could you lend me a quarter?"

"Is it as bad as that, doctor?" I asked.

"I am compelled to beg for one more meal."

"What do you mean by one more meal?" I asked him.

"Because I'll die before I beg for another," he replied.

I handed him a dollar and told him to cheer up and come to see me the next day.

"I'll step out and bring the change back," he said.

"Please don't, and don't return it until I call upon you."

I had never seen the man before and knew nothing of him, but presumed that he was one of the "misfits" in medicine who had reached the bottom and who could not be carried any lower by my contribution, however he might invest it.

To my surprise, he returned in a few days and returned the borrowed dollar in spite of my protest. I could see that he had been drinking and said to him: "Doctor, why don't you brace up and quit drinking?"

"Have you the time and patience to hear my answer?" he asked. And here is the story that this unfortunate man told:

"Before the war, I was a wealthy man and not at all dependent upon my practice. My wife was quite a society woman and had her own way and the means to do as she pleased. When the war came on, I went to the front as surgeon to my regiment. When it ended, I was a pauper. My fortune consisted of a fine estate near the city, one hundred and fifty slaves and Confederate bonds innumerable. All I found upon my return was, my bare acres uncultivated and even the forests were burned away. My wife had gone to live with a well-to-do sister in the city, and when I called to see her, she met me at the front door and coolly informed me that she did not care to leave a comfortable home to begin a struggle with poverty with me.

"Doctor, I had passed through four years of privation and suffering and scenes of swift and awful death; but, those few words uttered by that woman—my wife, paralyzed my soul. Before I thought, I had half drawn my pistol from its holster, not that I thought of harming her, but as a soldier instinctively does when suddenly confronted with danger. Her ashen features and trembling body made me aware of what I had done and what she feared. I turned from her and have never spoken to her since.

"I concluded that I would go to my farm and, with the help of a few of my loyal former slaves, build me a small shelter and try to reclaim a few of my worn-out acres. In attempting to get a small loan on my land, I ascertained that I had no land. For, while I was away in the army, a judgment was obtained against me for a security debt I had incurred, endorsing for my brother-in-law, and my land had been sold under a decree of court. I came to the city, rented a cheap office and have just about petered out."

When he had finished his story, I again asked him if he would not brace up and make an effort to quit drinking. He looked at me a moment and said: "What for?" And I thought "what for?"

Not long after this, I had occasion to visit him when he was taken suddenly ill, and found him occupying a little two-room wooden cottage in the middle of a large lot in a very poor section of the city. In the front room,

which he called his office, were two rickety chairs, an old green covered lounge, a small table with a kerosene lamp, and a rude desk with a half dozen old leather-bound medical books. The back room was his living room, bedroom and dining room, and the spectacle of that poor old man in that place was pitiful in the extreme. His illness was of short duration and I somehow saw no more of him until the next Christmas morning, when he walked into my office cleanly shaved, shoes polished and clad in a nice new suit.

"Well, well, where have you been?" I asked him.

"In the city jail, just released this morning," he replied.

He explained that he had been haled to court for non-payment of his license, and that the judge fined him fifty dollars, which he could not pay. In default, he was sent down to the city jail to remain until he was sufficiently punished for his poverty. The old gentleman said that he was received courteously by the officials, who seemed indignant at the action of the judge, and invited to occupy their offices and private rooms, to take his meals at their table and sleep in a private bedroom kept for their own guests, and to have the freedom of the place with liberty to go out on the streets when and where he pleased.

When R. E. Lee Camp Confederate Veterans got busy, an order came swiftly from that Judge to liberate Dr. C. The kind hearted jail officials prevailed upon him to wait a few days and eat Christmas breakfast with them before leaving. He described his leave taking as tears trickled down his cheeks: "On Christmas morning, I awoke to find this new suit spread out on the foot of my bed and an abundant supply of nice new shirts and underclothing stacked up on a chair, my old hat had disappeared and this one lay in its place. The warden tapped at my door, wished me a Happy Christmas from all the boys, and bade me to put on my new suit and hurry down for a little eye-opener before breakfast. As I left, they all wished me good luck and invited me to come back to see them and stay as long as I liked. The sergeant or warden said: 'Remember, doctor, no record appears on our books of your name or your stay here.'" He opened the pocket book which he found in his new clothes and found a snug little sum contributed by his friends at the jail.

He arose and, as he took leave of me, he said: "Now that I am attired as a gentleman and have the price of Christian respectability to put in the contribution box, I think I will go over to fashionable St. Paul's Church and attend the morning services. The only property that I own in this world is a life ownership of a pew in that church, and I think a little mingling with the gilded crowd might make me more contented when I compare hypocrisy with real religion."

Three months after, he was found dead in his little two-room cottage, having evidently died while asleep in bed. There, upon a little pine table, was his little blackened tin coffee pot, a loaf of baker's bread and a slice or two of cold, boiled, salt pork. Poor old man! As I gazed around his room and looked at his placid features, I said to myself, "Sure enough, 'What for?'" And when I heard a doctor say "Poor old C. let whisky kill him", I could not help telling him the story of the dead man. Then the doctor said: "What a brave man he was to have lived so long".

Another Misfit

Many years ago, there was a doctor who lived in Richmond and whose fall from opulence, gradually, to abject poverty furnishes us with a good picture of the medical "rolling stone".

This man was a wealthy doctor in an adjoining state before the civil war but, tiring of the practice, which he was not compelled to follow, he became a preacher and was not very successful in that line. When the war broke out, he forgot his ministerial duties and concluded to make another change and become a warrior. So great was his patriotism, that he raised a company of volunteers and equipped them at his own expense and marched them into Virginia with himself at their head as Captain G. All went well while they were drilling and parading in their gaudy uniforms around Richmond. But, when they reached Manassas and received the first volley from the Yanks, Capt. G.'s religion and courage both failed him and he tucked tail and fled rearward, leaving his astonished men standing firmly under fire. He was met in his mad flight by old General Jubal A. Early who was rushing his men up to the front. The old general was so incensed that, but for the intercession of several officers of his staff, he would have killed the poor coward on the spot. He compromised by stripping off his Captain's insignia and side arms and buckling a cartridge box on the trembling captain and placing him in the ranks of an infantry company then passing, with the command "Give this coward a musket and march him into the

fight and, if he turns to run again, shoot him down in his tracks."

The poor doctor-preacher-warrior certainly gave a good account of himself that day for, when the opposing lines seemed to be wavering, it is said by one of his comrades that he forgot his preacher role and in his excitement yelled out: "Come on boys, damn their souls, let's give 'em hell." When the charge was over and the enemy was in retreat and the good old General rode along the line to inquire how the "Captain" had fought, and when he saw him standing there covered with sweat and grime, he relented, called him out of the ranks, and pinned his three bars back on his collar handing him his sword and belt with the remark and advice "Captain, all you needed was a little training with Early's boys, but I would suggest that you exchange your captaincy for a chaplaincy."

The poor man was allowed to resign. He came to Richmond and undertook the manufacture of one or two proprietary specifics. For a while, he flared up and seemed to be making some money. But, he had to be always changing, and sold his formulæ to a St. Louis concern. Two of them are tremendous sellers to this day. He then got down to a cheap drug store in which he dispensed and counter-prescribed and worked in his spare hours in the back room on a most elaborate combination of wheels, balls and pulleys from which he was always "just about to perfect perpetual motion". When he had lost what little money he had and realized that he had been a failure in everything he had ever undertaken, he ran into a rapid decline and died because *he did not have the courage to live.*

Another Shifter

When I was a student at R—d College, I knew a tall gawky fellow who only studied when it was absolutely necessary to keep a reasonable standing in his classes. His mother was a widow and was in what is known as comfortable circumstances for plain people. When we left college, he entered into a small partnership mercantile business, and I entered the medical college, graduated and commenced practice. In a year or two he came to see me and asked if it required much study to become a doctor. I advised him to let medicine alone unless he made up his mind to work hard for the balance of his life. He went to a college that was begging for students and taking *anything* that came along. In the short two sessions of five months each, he fished up the diploma fee of thirty dollars and *graduated,* of course.

So he went from merchandising to practicing. He opened an office in a room of his mother's residence and started in trying for patients in a neighborhood where he had grown up and everybody called him by his first name; while the few who gave him his title never got further than "Doc."

After being in a patientless practice and supported by his mother for two years, he got a partnership with a real estate concern and tried his hand at that for a year or two, got tired of it and tried farming near town, dabbled in politics and was elected magistrate. But, he soon changed his politics from a democrat to republican and, consequently, was rewarded for his apostasy with a job in the U. S. Revenue Department being sent over the country looking after distillers who were evading the tax on their products. He soon found out that the moonshiner paid better than the Government; made one more change, lost his place, his self-respect and all hope, and rapidly drifted to his end.

It is not my purpose to mention the frailties of these men as object-lessons or for unkind criticism. Memory simply goes back to them and, now, after long years and more experience, I can see many things to palliate their fall. I have no doubt that they struggled harder to make good than many of us who have achieved, what the world calls, success. They were lacking in those qualities required to make *men.* The real fault rested with the institutions that accepted them as students and commissioned them to assume duties for which they were unfit. A medical student may have ambition, education, and other good qualities, but he should be *sounded for sand.* If the *grit* is lacking, it will be a kindness to turn him away and head him for the path of least resistance.

C. A. Bryce, M. D.
516 N. 10th St., Richmond, Va.

THE INDIAN MEDICAL SERVICE

[We have no hesitation in reproducing a letter that recently came to us, discussing the Indian Medical Service. The criticism contained in this letter is justified. The conditions in the Indian Medical Service are deplorable. It is incomprehensible how they can be permitted to continue, and it is to be hoped that, very soon, a radical change for the better will be made. The letter follows:—Ed.]

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The Bureau of Indian Affairs has recently

sent out a call for more physicians for the Indian Medical Service: these calls come with considerable frequency, as there is a chronic shortage of capable men in this branch of Government Service, the reasons therefor being well known to those who are conversant with Indian Bureau conditions and practices as they relate to medical matters.

It seems to me only fair that physicians, who may be considering the question of entering the Indian Service, should know beforehand what they are going up against, and why it is that there is so much difficulty in getting and keeping good men in it. The Public Health Service, The Army and Navy, etc., have no trouble in obtaining all the trained medical men they require, whereas in the Indian Medical Service we find the reverse to be true, so that the Indian Bureau even takes medical students of the final year in order to be able to carry on at all.

When a man passes the Civil Service Examination for Physician, and is assigned to duty on some Reservation, he naturally thinks that his position gives him full power to do what his professional training and experience show to be indicated in the treatment of his cases. Far too often, however, he is brought up with a sharp turn and made to realize that this is not the fact, but that he is subject in all things to the will of the Superintendent or Agent in charge of the Reservation, and that his authority is little better than nominal, even where the matters at issue are of a purely medical nature. If he happens to be stationed at a school, he learns that the Agent has the power to delegate his arbitrary authority to the Principal of the school, so that the latter can override the doctor's recommendations as to the disposal of cases and even go so far as to disregard or set aside his diagnosis! Needless to state, such a condition of affairs is extremely humiliating to a trained physician, but it is a logical result of the retention in Indian matters of the antiquated system which gives the Agent Czar-like powers in his own jurisdiction. Thirty or forty years ago, there might have been some excuse for endowing this official with a great deal of authority: At that period, most of the Reservations were remote from civilization, settlements were few and far between, and hostile Indians had to be dealt with. Consequently, the Agent had to have full control in order to meet all emergencies that arose. In this present day and age, however, such a system is an anachronism. The Indian is peaceable, and the Indian problem is no longer a military one, but a business proposition, pure and simple, and should be universally recognized as such and dealt with accordingly.

Owing to the rapid increase in population of the western states, in which the vast majority of the Indians live, and to more rapid means of communication with other parts of the country, there is much more travel, so that diseases are spread more rapidly than was the case in the early days; and the Indian has suffered accordingly, acquiring diseases that were almost unknown before he came in contact with white men. As a result of all this, a large part of the Indian problem is of a medical nature, and this will be more and more the case as time goes on. But, as long as the Indian Service Physician is so restricted, sanitary and health conditions among the Government's wards will be no better than they were a generation ago, in fact they will become increasingly worse.

Another disagreeable feature that the newly appointed physician will encounter is, that he is required to report all cases of sickness to his Superintendent—this applies to the white employes as well as the Indians. So we often find that the patient's illness becomes public property and plentiful food for the evil-minded gossip, making some reservations a veritable little hell on earth. It doesn't need to be said that a physician endowed with gentlemanly instincts finds such a condition of affairs intolerable, so that he resigns just as soon as a good opportunity presents itself to get into another service where he is able to retain some degree of self respect: All this, of course, is detrimental to the Indians' interests. The constant shifting and changing around of the I. M. S. man results in leaving all sanitary matters in an unsettled state.

Although the Indian physician receives a beggarly salary of only $1200.00 a year—plus a bonus of $20.00 a month for the present—he learns that any outside work he may have a chance to pick up is largely subject to the will of the Superintendent, many of these officials delighting in showing their power by requiring the doctor to account for almost every minute he is off the Reservation. At many agencies, too, it is the custom to allot the poorest car to the doctor, and he is expected to look after it and keep it in repair himself. Then, he very frequently finds that the use of the machine has to be shared with other employes, all of which means annoyance and delay in carrying on his work. A friend of mine had an auto assigned to him that had been used for eight years, and he con-

sidered himself lucky in having even that much doled out by the powers that be.

If the Indian physician examines an applicant for a Government pension, he is expected to do the work for nothing, the excuse being that he receives a salary from the Indian Bureau, therefore is not entitled to his examination fee from the Pension Bureau. At the same time, the Agent or some employe under him, may be the Postmaster, getting a tidy little sum each month out of the job. That is all right, though: the doctor has no rights or privileges that anyone need trouble to respect; only those that the Agent may permit him.

There are certain printed rules that define more or less vaguely the physician's status, and from time to time circulars are sent out from the office at Washington. When a man reads these, he imagines that he is given considerable power in this line of duty. It isn't long, though, until the doctor has the fact impressed on him that, in actual practice, the Agent can alter or disregard practically every one of these regulations, and if he objects, the Agent always has a club to use on him, due to the fact that he makes out the doctor's efficiency report: so that, at any time, the Agent can send in a report or have this done by one of the numerous traveling Supervisors or Inspectors in the Service, and the physician receives a peremptory note or telegram from Bureau Headquarters, either firing him, suspending him without pay, or transferring him to some undesirable post in a distant state. Of course, the doctor may ask for an investigation, but he quickly finds out that he is under almost insurmountable handicaps when he starts anything of this nature. Every employe is responsible to either the Superintendent or the School Principal, as the case may be, because these gentry make out their efficiency reports. Consequently, the employe has to give his testimony in line with the Agent's will or be in danger of getting it in the neck. This applies to the nurse as well, placing her between two fires, since she isn't responsible to the physician at all, when it comes to rating her efficiency. In consequence, she may obey the orders of the doctor or disregard them, just as she pleases, knowing that she is safe just as long as she has a stand in with the Agent.

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The disabilities I have mentioned above are but a few of the ones that the Indian doctor labors under, but they are a-plenty, and it is nothing more than a square deal to let any man contemplating going into the I. M. S. know beforehand something of the life he will lead. If he feels willing to take his chances under the conditions revealed, then he will have nobody to accuse, later on, of misrepresenting things. But, even if he is fortunate enough to obtain a billet where the Agent is a man broad-minded enough to recognize that the physician should be supported in his endeavors in behalf of the health of his charges and not be interfered with at every turn over petty points of authority, even in such a case he will always have the knowledge that, at any time, conditions may reverse themselves. He is never really his own master. Should the physician find and report too much sickness, say, numerous cases of tuberculosis or trachoma, so that there is an apparent reflection on the sanitary state of the Reservation, right then trouble often starts, as there are far too many officers in charge of Indian Reservations who are more interested in fine paper records for themselves than they are in the health and safety of those supposed to be in their care.

I have learned the foregoing facts either through what I have seen personally on Indian Reservations or through friends in that Service, and it has been my endeavor to be as conservative as possible in my statements. There is certainly an urgent need for radical changes and improvements in Indian Medical Service matters, and we have a splendid opportunity to get reforms effected in this field of Governmental activities by having a man like Dr. Hubert Work at the head of the Department of Interior, which contains the Bureau of Indian Affairs. It is confidently believed that he is in thorough sympathy with any efforts to give the Indian physician a better status and one that will free him from the present handicap of lay control; and we should, as medical men interested in the advancement of our profession, back him up in attaining these desired ends. I believe, also, that we should write our Senators and Representatives, urging them to do all in their power in reorganizing the Service; the best solution probably being, to place it under the control of the Public Health Service, along the lines of a bill introduced by Senator Johnson, of California, which is now in the Committee on Indian Affairs of the Senate. We should write the Chairman of this Committee, at Washington, asking that the bill be reported on favorably and passed.

J. Hubert Darey.

Sioux City, Iowa.

OUR FIRST DISTRICT MEDICAL SOCIETY

Brevard, Transylvania County, North Carolina, has been placed upon the map, medically speaking, by the meeting of this Society. Our beautiful County of Transylvania—"The Land of Water Falls," with her broad valleys and fertile fields and sylvan vales, surrounded by the towering peaks and circling crests of the Blue Ridge and Appalachian Mountains, has done herself the honor of entertaining the Medical Society of the Tenth District.

The most beautiful and romantic setting for this gathering was found at Camp Transylvania. It was the largest body of visitors ever yet received in Brevard. An able body of scientific men, leaders in their profession, and fair women whom it was our delight to honor.

The cause of medicine was greatly advanced by the interesting and instructive speeches delivered and the learned papers read by our visiting brethren. And the bond of good fellowship and fraternal feeling was greatly broadened.

A fascinating feature of the evening was the charming vocal music, rendered by Mrs. H. R. Walker. Also, the Gypsy band of fair young maidens in a lovely dance cast a high light of pleasure upon this otherwise serious and studious occasion. Thank goodness for the "Flapper" who is destined to save humanity and the world.

The doctors' wives enjoyed the beautiful mountain views on an automobile trip to the enchanting Falls of Connestee.

Many monuments have been erected commemorating the valor of the soldier, brave acts performed by him in the lime light of publicity, surrounded by all of the pomp and circumstance of war. To the medical profession, there should be raised a monument higher than high Olympus. The doctor unflinchingly risks his life daily, encountering contagious and deadly diseases. Alone through the silent city at midnight. At the isolated farm house. Traveling along the tortuous and treacherous mountain trail leading to an humble cabin.

The soldier invokes death to aid him in destroying life, the doctor fights death singlehanded every moment of the day and night, to SAVE LIFE. By his skill and nerve, with the tiny scalpel, he defeats death with all of its horrors. He actually "breathes the breath of life" into the body of the newborn babe lying pulseless and breathless. Its first cry of life is a cry of joy to the despairing and heartbroken mother, a cry of victory to the doctor.

The true physician risks all, gives all in fighting suffering, disease and death. Returning to the monster, death, in his fight for life, blow for blow, and when the time comes for him to lay his well-worn armor aside, death only receives a wornout body and a shattered nervous system, the doctor is again victorious, happily receiving a long desired and deserved rest at the hands of his, now, friend death.

This, our first meeting of the kind, was a great success and was very much enjoyed by all, which was due entirely to the visiting ladies, and to the efforts of our home women who proved themselves two hundred percent efficient in entertaining their guests, four hundred percent invincible in overcoming obstacles, eight hundred percent charming in their deft and gracious ministration in serving a much enjoyed dinner to the tired and hungry stranger. No, they were not angels, but more desirable than angels. Who wants an angel?

I felt that we received more at the hands of the ladies than we deserved. I was impressed by this fact and, on this account, I feel that the profession of medicine should study harder, work harder and thus implant its high ideals more and more in the hearts of the people.

So, here's to our fair lady guests and to our gracious women of Transylvania, who will be remembered by us till beauty and charm are forgotten upon the face of the earth.

C. W. HUNT.

Brevard, N. C.

WAS IT ENCEPHALITIS?

Mr. C, age 29, married, clerk. Catholic. Ex-soldier who had foreign service.

Family History.—Grandmother on father's side had mental trouble. Grandmother on mother's side died at age of 76 one year following a cerebral hemorrhage. Other grandparents died of old age. Father and mother living and well. They are first cousins. Five brothers and one sister are all well and normal, except that they are all of an excitable, nervous disposition.

The wife is well, eight months pregnant. One living child, 2 years old, is a picture of health, except for a small right inguinal hernia.

Previous personal health: Always in good health with exception of having influenza in 1919, while in the army. Recovery good.

History of Present Illness.—April 4, 1923,

he was at work in the store and was talking to another clerk. He seemed to be feeling well. He had eaten a big breakfast and had not complained of any indisposition to his wife that morning.

The clerk who was talking to him went into another department, returning in about ten minutes. Mr. C. was then lying on the floor, face down with his head in a pool of vomitus. Beside him, was the ladder by means of which the clerks had access to the higher shelves, back of the counter.

I was called at once and, being just next door at the time, I was at his side within a few moments. He was lying, as stated, face down in a pool of vomitus. I removed him at once to the hospital, two doors away.

He had a large contusion, which was black and blue, over the left eye, discoloring the whole upper lid and extending beyond the superciliary ridge. The pupils were fully dilated. He was unconscious. The pulse was 40, blood pressure, syst. 120, diast. 54. Temperature normal. While undressing him, his arms were spastic and extended. During his undressing, he vomited food with a marked projectile type of vomiting. Also he had an involuntary bowel movement.

Otherwise, examination was entirely normal, including a complete neurological investigation by myself. Urine negative.

An x-ray of the skull was normal for all positions.

At this time, I made a diagnosis of a fall in syncope during which the patient struck his unsupported head on the counter, producing the contusion and a concussion of the brain.

Treatment.—External heat. Morphine, gr. ¼ and atropine, gr. 1/150 hypodermically. This was at 8:30 A. M.

At 8 P. M., pulse was 62; respiration, 20; temperature in ax., 98.2. The patient was beginning to roll his head and to mutter jibberish but no words.

11 P. M., Morphine and atropine repeated in the same doses.

The patient rested and slept most of the night. Vomited small amount of greenish fluid once during the night.

2nd Day.—6 A. M., pulse, 64; temperature in ax., 98; respiration, 20. Very restless and will not talk, but tries to. It appears that he cannot. He rolls his eyes with a far away, helpless look.

8 P. M., pulse, 66; temperature, 98.3; respiration, 20. Consultation with one of the leading neurologists of Minneapolis. He reports physical examination to be negative, including ophthalmoscopic examination. His diagnosis is, concussion of the brain. Prognosis good.

3rd Day.—7 A. M., pulse, 60; temperature in mouth, 98; respiration, 20. Slept all day. Had one involuntary bowel movement and urinated 3 times; normal amount and normal chemically and microscopically.

5 P. M., pulse, 60; temperature, 99.4 in axilla; respiration, 20. The patient is restless till midnight and, after that, rested and slept at intervals.

4th Day.—7 A. M., pulse, 72; temperature, 98.5; respiration, 20. Mentally the patient is still the same except that he can say a few words. At times, he appears quite bright and understands everything, but he cannot talk. In reply to "you know what you want to say, but you cannot think of the word?" he smiles and nods his head in the affirmative. He rubs his hand across his forehead.

Examination of blood, taken the 3rd day, results as follows: rbc, 6,650,000; wbc, 9100; differential, normal; Wassermann, positive. The Wassermann was done by the State Laboratory.

5th Day.—Patient removed to his home. Can now remember a few things of the past. He knows his Army number, unit number, the boat he crossed on, etc. The family reports these things to be correct. He is very restless at times and irrational.

Another Wassermann is made. Neoarsphenamine 0.6 Gm. intravenously, at 9 P. M.

Examination today reveals neurological evidence for the first time. The tests had been done daily. Babinsky is present on right side. Right knee jerk more active. Left side Babinsky absent and knee jerk absent.

6th Day.—Much brighter all day. Talks quite sensibly and is not so restless. Still has involuntary bowel movements daily and involuntary urination. During the night, he became very restless. He had a convulsion at 3 A. M. and then went into a stupor.

7th Day.—Stuporous. Temperature, 99; pulse, 100; respiration, 20. Before this, the temperature had remained normal to 99 and pulse around 70.

Spinal puncture removed ½ oz. of bloody fluid. We had to withdraw needle, as the patient stopped breathing.

Examination of right side. Knee jerk present but not so active as before. Left knee jerk absent. Babinsky present on both sides. Neck is rigid. Kernig's not present. No nystagmus. No tâche cérébrale.

Remained in coma all night.

8th day. 7 A. M., in coma. Consultation with neurologist from St. Paul. Second Wassermann positive. Spinal puncture bloody. Stopped breathing again. Stops breathing today whenever he is moved. Temperature, 101; pulse, 100. Nystagmus present following instillation of homatropine to the eyes. Spinal fluid report is negative in every way: normal cell count, normal sugar content, normal colloidal gold curve.

The neurologist's diagnosis is Encephalitis Lethargica, not luetic. My diagnosis is Luetic endarterites.

9th Day.—Same as yesterday. If anything, a little more moribund. Nystagmus present and other neurological signs are the same as before, with the addition of ankle clonus on the right side.

Lumbar puncture. Mercury rubs are ordered to which the consultant agrees.

10th Day.—Lumbar puncture yields clear fluid at first, but which gradually becomes bloody. Mercury rub and thromboplastic serum, 2 Cc. every 2 hours. The patient's condition is the same.

11th Day.—The same. Spinal fluid still bloody. Keep up the thromboplastic serum.

12th Day.—The same, except that spinal fluid is not bloody. Still stops breathing on rolling him over, etc.

13th Day.—Blood and spinal fluid reports, taken by neurologist, are all negative. Sent a specimen of spinal fluid to Beebe laboratories, St. Paul.

14th Day.—Died at 1 A. M. Laboratory reports colloidal gold curve for tabes.

In reviewing the case with the first consultant and the second who saw the patient three times, both agree on a non-luetic diagnosis against me, and I still hold a diagnosis of lues.

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Now, I have written this in as close to a logical sequence as possible. The consultants are both former professors of mine at the University of Minnesota Medical School, and both are very dear friends of mine.

I would like to have a discussion of this case from all and every standpoint, as I believe that this is the biggest case of medicine I ever saw.

Post mortem examination was not permitted. Since then, the wife has been confined of a healthy child. She has now two healthy children and has had no history of miscarriage, etc.

J. R. Sturre.

Watkins, Minn.

[This certainly is a most interesting case, and we hope sincerely that many of our readers will discuss it in detail. To us, the most surprising thing is the fact that repeated examinations of blood and spinal fluid gave a negative Wassermann reaction, a positive result being noted only on one occasion. We are of the opinion that, in all probability, there existed a luetic factor in this case. The diagnosis of encephalitis lethargica does not appeal to us, largely because of the sudden onset which was quite stormy, loss of consciousness accompanied by projectile vomiting; with temperature normal or slightly below for several days. There was no marked disparity between temperature and pulse, even when the temperature began to rise above normal.

What are the possible diagnoses in this case? What pathologic processes might be thought of? Let there be a good discussion, please. —Ed.]

MEDICAL CONSULTATIONS ABOUT PROMINENT PEOPLE

All that Dr. Bryce wrote (September issue, page 682) in connection with consultations in usual medical practice, I uphold and endorse. It was full of truth.

In case of prominent people who are ill, a few words in this connection might be added, with good effect later, I trust. As in the case of our late lamented President Harding, so now with Mayor Hylan, the patient is, in a way, a victim of too much medical advice. Today, we are informed, Mayor Hylan has six doctors in attendance. During the past few days, we have had different accounts. At one time, things were going well with him, again badly.

At first, he had possible influenza, then he had pleurisy, now he has pneumonia, maybe with pleurisy.

Who rules or has the final say in the case? The public does not really know. Who guides the treatment each day? Again, we do not know. What we should know is this: The last comer in each case to the bedside of the ill man must either take the combined judgment of the previous physicians, without much or any control, or he must make some personal inquiries and examinations. The latter, especially, are often fatiguing and injurious and serve no useful purpose. This statement is especially true in pneumonia. In this disease, the patient should be examined as rarely as is consistent with his outlook for betterment, or cure. Also, he should be moved only when it

is desirable to give a new and better breathing area to his lungs. As a rule, the attending physician, if wise and experienced, is of far more value than the consultant. One consultant, if desired by the doctor in charge or by the family, should be selected by the patient's physician and by him solely when he can rely upon his great knowledge of the disease or in general of symptoms and conditions of disease, and also, upon his high personal integrity. All other counsel is worse than valueless.

I cannot but hope that this brief letter may be widely read and considered, both by physicians and the laity.

BEVERLEY ROBINSON.

New York City.

"THE ROLE OF ENDOCRINOLOGY IN EPILEPSY"

A paper with the title reproduced in the caption was contributed to the September issue of CLINICAL MEDICINE, by Dr. Maximilian Kern of Chicago. In the following, we present a discussion of Doctor Kern's paper which was submitted to us by Dr. L. B. Bernheimer, also of Chicago:

The discussion, by an otolaryngologist, of an essay on a problem which apparently concerns only the internist or neurologist may seem an infraction. However, when one considers the role played by dysfunction of the internal secretions in the etiology of diseases of the ear, nose or throat, it becomes apparent that nasal pathology may be involved in the relation of glands of internal secretion to epilepsy. A high degree of specialization in a chosen field is an ideal acquisition; but, unless the specialist understands and correlates with conception of a general nature, he will often be hopelessly lost. Rhinological or otological pathology may be an entity in itself; nevertheless, it is often but an expression of a morbid process of a much more general nature, such as internal-secretory disturbances.

The following rhinological and otological conditions have been reported by different authors to have various glandular dystrophies as their exciting etiological factors:

Otosclerosis
Hayfever
Hyperplastic Sphenoiditis
Asthma
Hyperesthetic Ethmoiditis
Polypesa
Atrophic Rhinitis

The results obtained in these conditions by organ therapeutics differ; but, in many cases, improvement has been observed and in some instances complete recovery reported. Since the nasal conditions enumerated are usual rather than infrequent occurrences in rhinological diseases, since the ductless glands have an influence in their etiology, and since these same ductless glands influence the etiology of epilepsy, it is logical to look for nasal or otological pathology in epileptics in whom a glandular disturbance is suspected. This conclusion prompted my examination for nasal manifestations of ten socalled idiopathic epileptics in a European neurological clinic. These patients were chosen at random, being merely individuals suffering from epilepsy who happened to be in the clinic at the time of the examination. They were not selected in any sense, except that all were epileptics. The following findings were noted—

In one case, there was an atrophic rhinitis in an advanced stage. In another case, that of a young girl, there was a well marked otosclerosis; an interesting feature was the girl's statement that, for days after her epileptic attack, the noises in the ears due to the otosclerotis process were louder. One individual gave a definite history of hayfever of long standing. At the time of the examination, the nasal picture was negative. A fourth patient had had asthmatic attacks when younger. Because of her highly irritable condition, her examination was not altogether satisfactory, but the nasal picture in this case was apparently negative.

Six of the epileptics showed definite tonsil pathology.

To conclude that the findings in these cases, chosen at random, were due to mere chance, would be illogical. In at least three of the ten cases, nasal disease was positive, and it was doubtfully negative in a fourth. I do not believe that the same number of cases, chosen at random from healthy or diseased individuals, would give so great a percentage of nasal disease of this type. The therapeutic results of organic therapy in all these individuals cannot be given, as such treatment was attempted in but one instance, which is recorded more in detail as follows:

Master Charles A., eleven years of age, had suffered from epilepsy since the age of eight. The attacks were usual, but from the beginning had been of the *grand-mal* type. During the first two years of the sickness, he had had five attacks altogether; during the last year, he had had a seizure every three months. The nasal findings were those of a typical atrophic

rhinitis in an advanced stage, with the accompanying disagreeable pharyngitis sicca. X-ray showed, besides the usual sinus involvement, a flattened sella turcica. The thyroid gland of the child was small, although there was no apparent dysthyroidism. It is well to note, however, that hypothyroidism has been described as a causative in atrophic rhinitis in children. Blood examination showed a lymphocytosis.

Treatment was undertaken with injections of the ozena vaccine of Hofer supplemented with thyroid and pituitary feedings. The organotherapy was not aimed at the epileptic condition but at enhancing the action of the ozena vaccine. The atrophic rhinitis cleared up in the usual period of time—ten months. During this treatment, the child had no epileptiform attacks and showed marked general improvement.

I do not wish to convey the impression that, in all cases of epilepsy due to dystrophy of the ductless glands, rhinological manifestations are present, or that these nasal findings often signify epilepsy. The point which I hope to have established is that, in cases of epilepsy of the internal-secretory type, certain nasal findings, if present, are very significant in establishing the diagnosis.

Regarding the significance of the tonsil pathology, it has been reported recently that focal infection plays a part in the production of the pancreatic type of diabetes. For some years, we have believed that focal infection produces dysfunction of thyroid and of pituitory glands. Since these glands are involved in the etiology of epilepsy, I suggest that focal infection should be sought in epileptics. I do not state that removal of a focus will in itself alleviate the epileptical condition; but, if an existing focus is eliminated before a course in organotherapy is given, I believe that better results will be obtained. My suggestion, then, is to look for a focus; if one can be found, it should be eliminated before treating the epilepsy in a more direct manner.

We have had the pleasure of hearing Dr. Kern offer a very valuable contribution to medicine in the form of a presentation of cases of epilepsy due to dysfunction of the internal secretions. I have been fortunate enough to observe the end results in several of these interesting cases related by Dr. Kern. From the standpoint of therapeutic results, enough tribute cannot be paid to him.

L. B. Bernheimer.

Chicago, Ill.

"A CHIROPRACTIC VIEW"

The regular medical profession has never been averse to adopting any new procedure that has shown merit; but, before they will do so, they must be shown.

Shortly after Abrams came out with his new method of diagnosis and treatment, a proposition was made to him by the editor of the *California State Medical Journal* and one other physician, that they furnish him with blood from 200 patients from the University of California and Stanford University clinics, each of whom was known to be the subject, in uncomplicated form, of but one of the diseases he diagnoses. With the blood, Abrams was to be furnished the clinic number of the patient, and he was to have access to the patient and his record immediately after rendering the diagnosis in writing. His representative was to be allowed to be present when the blood was taken from the patient, in order that no incorrect clinic number might be substituted.

Abrams flatly refused in any way to cooperate in such an investigation.

Osteopathy has been in existence now for about thirty years, and in its early career it was just about in the same fix as chiropractic is to-day, until the school finally had to furnish some sort of a decent curriculum and give its students more than a superficial smattering of the study of medicine. We have yet to see any of the regular schools establishing a chair of osteopathy. While some of the universities did think well enough of homeopathy to form homeopathic schools, even those schools, will evidently soon become extinct. If there were so much of value in osteopathy or chiropractic, the regular schools would not be slow to adopt the teaching of it, and it would seem that, if they are not considered important enough to warrant this, it is hardly justifiable to start a new school for the teaching of them except for the specific purpose of lining with gold the pockets of the ambitious originators.

Dr. Frederick H. Albee, who has probably operated on more spines than the average chiropractor has ever seen, states "In all my experience, in all my examinations of spinal columns, in all the operations I have performed, I have never found any foundation whatever for the chiropractic theory. The spinal foramina are too large to permit any pressure, except in cases of dislocations of vertebræ, when paralysis results."

Even though a vertebra may be subluxated

according to the chiropractic theory, it is a rather gauzy probability that even one so well versed in spinal alignment as the chiropractor could detect so slight a deviation through the tissues; and, supposing that were possible, it is rather preposterous to have one believe that a vertebra is going to remain in position if put there by their "thrust" without some means of holding it there; for, even the turning of one's head will cause action of muscles attached to the vertebræ and, naturally, pull the adjusted vertebra back where it was before the alleged adjustment, especially when the type of articular surfaces are considered.

Colds are chiropractically caused by subluxations. They are most frequent in the winter time, and, consequently, subluxations that cause colds evidently occur more frequently in the winter. By the way: why are subluxations more frequent in winter and what causes their correction? All acute conditions, such as pneumonia, typhoid fever, scarlet fever, measles have a tendency to get well. If caused by subluxations, why do they get well without spinal adjustments. Do the vertebræ readjust themselves? If so, why do they do so usually in definite length of time? One would think they worked on a schedule.

There can be no denying that results are obtained, sometimes, by these freak methods, but they are certainly not obtained by any adjustment of vertebræ. Results are also obtained by Christian Scientists, naprapaths, incantations, yarb doctors, by the Indian medicine men and by Abrams. John B. Murphy stated that he has seen inoperable cancers disappear with no treatment whatever. Nature is a pretty good old doctor and performs many miracles, giving new-system originators and their followers opportunities to claim credit for work performed by her, and incidentally to live in luxury.

Physicians themselves are responsible for the wonderful business the spine manipulators, neck twisters, Christian Scientists and other bizarre curers do; in that a very small percentage of them really get down to brass tacks and make an earnest, honest-to-God endeavor to find out what is the matter with their patients. It is not to be wondered at that, after a patient has gone the rounds of a half dozen regular physicians, whose chief ability or, rather, ambition seems to be writing prescriptions, without results, he arrives at the conclusion that the regulars can do him no good, and he turns to the boys who are making loud claims through the press. If all physicians would spend two, three or four days in investigating the condition of their patients, using the modern methods of examination that we now possess, and thus arrive in most instances at an approximately correct diagnosis, if in most cases they would, therefore, be able to properly direct the patient as to diet and correct manner of living, together with such medication as might be necessary—these offsprings from the various money-making fountain heads would not find much to do.

Chiropractic would undoubtedly follow the long list of freak innovations of the past, and slowly slide out of existence, were it not for the organization for propaganda, and the advertising matter turned out by the biggest printing outfit in the state of Iowa, which also, by the way, brings the big round iron men into the Palmer coffers. Advertising will sell fake oil stock, fake mining stock, and chiropractic treatments as long as the world lasts; for, the truth of Barnum's well known statement did not die with him.

G. M. Russell.

Billings, Mont.

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[Doctor Russell's closing remarks amount to this, that it depends upon medical practitioners themselves, in the last instance, how soon all irregular cults and "schools" of healing shall be eliminated. As a matter of fact, people would much prefer to be treated, in their sickness, by regular practitioners of medicine. They have become disheartened because much in the ordinary practice, especially office practice, is casual, cut-and-dried, stereotyped, of the rubber-stamp variety. Does any physician think that people do not know it, and resent it, if they are fed samples out of the grab-bag desk drawer, when the doctor thinks that they do not need much medicine or when he does not know, and does not want to take the trouble to find out, just what ails them? Is it not true that too much of that sort of thing has been going on and is still going on?

The American general practitioner is the peer, the equal of any medical practitioner anywhere. He is capable and able, he has the information or knows where to find it. He is full of resources. The trouble is, that, often, he does not take the trouble to do the best that is in him. He may be tired out; he may be discouraged. But, let him buckle down to work, and he can and will give a good account of himself, every time.

The treatment and care of every single patient requires much thought and study. The

longer the illness has lasted, the more chronic the case, the more difficult is its study. BUT, this difficult study, if undertaken with energy and interest, soon will repay the Doctor richly; the next case will present less of stumbling blocks and, soon, the habit of case study will be established as a matter of course. In their turn, the patients appreciate the individual interest taken and demonstrated in their cases. They are willing, more than willing, to pay for it; and they spread the Doctor's fame.

It takes time and effort? To be sure, it does. Nothing worth doing and worth having can be had for the asking. Moreover, the need of study, of "looking up the literature" is not resented by the patients. The time is past when the Doctor was expected to know everything without effort or thought. If the Doctor says, I have to study your case rather closely and must look up a lot of literature, the patient will feel flattered and important. The same is true if some special examinations and laboratory tests become necessary. Then, after a week, or even more, of detailed examination and study, the patient can be told the result of the investigation. He will declare, this is the first Doctor who has ever tried to understand my case, and will promptly bring half a dozen others, usually chronics, to get the benefit of the Doctor's careful attention.

The first and most important factor in successful treatment, at least in most chronic cases and in the absence of urgent symptoms, is, to establish a receptive mental attitude on the part of the patient. Physical methods of treatment, drugs, diet, etc., can all be regulated gradually on the basis of the investigation and will help. But, the most successful item will be the encouragement afforded to the patient, the confident hope of improvement and of ultimate cure.

If we as medical practitioners do our level best by our patients, it will soon come to pass that "No outsiders need apply." People do not really want them.—Ed.]

U. S. CIVIL SERVICE EXAMINATION
Junior Medical Officer

The United States Civil Service Commission announces an open competitive examination for junior medical officer. Vacancies are to be filled in the positions of physician in the Indian Service, surgeon in the Coast and Geodetic Survey, and physician in the Panama Canal Service for duty outside of hospital.

Indian Service.—The entrance salary for physician in the Indian Service ranges from $1,000 to $1,200 a year (plus bonus), with quarters, heat and light. Employes have the privilege of boarding at the common "mess" at a very low cost. The Government furnishes all drugs and equipment and means of transportation.

Coast and Geodetic Survey.—The entrance salary for surgeon in the Coast and Geodetic Survey is $1,020 a year (plus bonus), with allowance for subsistence at $1 per diem while serving on board ship, except in the Philippines, where the allowance for subsistence is $2.50 per diem.

Panama Canal.—The entrance salary for physician, Panama Canal Service, is $250 a month; promotion may be made to $275, $300, $325, and $360, and to higher rates for special positions. The salary begins on the date of sailing for the Isthmus, and free furnished bachelor quarters are supplied on the Isthmus.

Bonus.—Appointees at annual compensation of $2,500 or less, whose services are satisfactory, may be allowed the increase granted by Congress of $20 a month.

Applications for these examinations will be received until the hour of closing business on December 28, 1923. If sufficient eligibles are obtained, the receipt of applications may be closed before that time.

Applications.—Applicants should at once apply for Forms 1312 and 2398, stating the title of examination desired, to the Civil Service Commission, Washington, D. C.

Applications should be properly executed, excluding both vouchers, but including the medical certificate, and must be filed with the Civil Service Commission, Washington, D. C., without delay.

The exact title of the examination, as given at the head of this announcement, should be stated in the application form.

THE LAW AND DISEASE PREVENTION

California Court Helps Define Reasonable Suspect

"A court decision important in the annals of health legislation" is the way the United States Public Health Service at Washington characterizes the recent ruling of the District Court of Appeals, Second District, Division 1, of California.

Marie Clemente, arrested and charged with conducting a disorderly house, petitioned the court for a writ of habeas corpus setting

forth that she was being illegally detained and restrained of her liberty by the chief of police of the City of Los Angeles acting under instructions from the health department of that city not to release her until she had submitted to an examination ordered to be made by the health department for the purpose of determining whether she was affected with a contagious or infectious disease.

The District Court of Appeals held, that information, that a woman is not only conducting a house of ill-fame, but also personally participating in the unlawful acts carried on therein, furnishes reasonable ground to believe that she is affected with an infectious disease, authorizing the health department to enforce quarantine measures against her. The woman was remanded to the custody of the chief of police.

As far back as 1919, the United States Public Health Service, in a bulletin prepared by direction of the Surgeon General, V. D. Bulletin No. 39, advocated a model city ordinance which provided that all persons reasonably suspected of having a sexual disease in the infectious stage be examined by the health officer or under his direction. Who might be considered a reasonable suspect in such cases, has been a point of controversy in many localities. The recent decision in California, says the Public Health Service, helps to clear up this much debated question.

GUARD YOUR EYES

The explosion of a pipe into which a cartridge had found its way with the tobacco; a wound from the fin of a fish; an eye-shade catching fire; a peck from a pet rooster held in the lap; a jab in the eye from the horn of a cow; these are some of the causes of 279 serious eye accidents reported to the National Committee for the Prevention of Blindness during the month of August.

This, according to Lewis H. Carris, managing director of the committee, is undoubtedly merely a fraction of the total number of eye accidents which occurred during August as there is not at present any means of ascertaining the total number of such accidents. The National Committee, Mr. Carris announced, has just undertaken a progressive nation-wide census of eye accidents, the August accidents being the first returns in this census. The purpose of the census is, to determine what are the principal causes of accidental injuries to the eyes—injuries which are now adding thousands to our blind population yearly—and the means of eliminating those causes.

Of the eye accidents reported during August, 247 destroyed or seriously injured the sight of men and boys and only 31 affected the eyes of women and girls. There were 45 serious eye accidents to children, 37 occurring in play. More than a third of all the accidents reported occurred in industrial occupations. Included in the latter group was the injury known as "Klieg eyes," which occurred to Jack Talmadge Keaton, the one year old son of "Buster" Keaton, whose eyesight was affected by the lights used in his father's motion picture studio.

ELEVEN ESSENTIAL EYE EXERCISES

We hear a good deal now about exercising for health—daily dozen, salutary six, and other names being given to it.

For many years, I have practiced the eye by exercising the muscles. I also have a method for doing this to face and scalp and, later, if the kind editor of THE AMERICAN JOURNAL OF CLINICAL MEDICINE will allow, I'll tell about this latter.

In this paper, I am giving my own method of exercising the eye muscles.

Have the patient sit in a dark room—here, the muscles are more at rest—with a tiny light sufficient to throw a reflection on the little pointer that the physician, sitting opposite the patient, holds in front of the eyes. I suppose, a small rod with a very small electric globe—it would have to be very tiny—on a stick would do; but I doubt it, as it would demand too much accommodation on the part of the pupils. I use a small stick with a red head on top of it.

You tell the patient to follow with his eyes the movements of the bead, without turning neck or head.

1.—Patient closes and squeezes the eyes so as to stir circulation.

2.—Stares at rod placed over nose on level with eyes—thus: |.

3.—Doctor makes an up and across movement—thus; +.

4.—Exercises rectus superior by up movement—thus: | (up).

5.—The rectus inferior—thus: | (down).

6.—Rectus externus—thus: — (out).

7.—Rectus internus—thus: — (in).

8.—Superior obliquus—thus: / (up).

9.—Inferior obliquus—thus: \ (down).

10.—Palpebralis superior by telling patient

to close lids and slowly open them.

11.—Circular motion with rod: O.

These exercises are for the development of muscles suffering from strain or otherwise. They are not intended to interfere with the work of oculists or opticians.

During the draft, I tried them on young men who wanted to enlist and join special branches of the Army and Navy, with success.

The movements must be few at first, with a pause for rest, as the muscles will protest. The best way to rest is, to close and compress the eye.

JOHN A. PRICE.

Denver, Colorado.

PREVENTABLE EYE ACCIDENTS

The fact, that automobile accidents now constitute one of the major causes of serious eye injuries, is revealed in an analysis of all the eye accidents reported to the National Committee for the Prevention of Blindness during the month of September. Next to industrial accidents, the Committee reports, motor vehicle accidents caused the greatest number of eye injuries during September, agricultural accidents ranking third, and the accidental explosion of guns, fourth.

The National Committee is now conducting the first national census of eye accidents in an effort to determine the principal causes of such accidents. This census will continue for at least a year and will be followed by a campaign for the elimination of the preventable causes of blindness.

The census was started on August 1. By the last day of September, 590 serious eye accidents had been reported. In 40 cases, total loss of both eyes was indicated; in 167 cases, the total loss of one eye was indicated; and in the remainder there was serious permanent injury of the eyes. Industrial accidents caused 198 eye injuries, automobile accidents 63, agricultural accidents 46, the explosion of guns 41.

During August and September, eleven serious eye injuries were caused by baseballs, six by golf balls, five by bursting automobile tires, and one by football. Wood alcohol caused six cases of blindness. The eyes of 117 children were mutilated by accidents during these two months, 87 of them while at play.

If a crooked stick is before you, you need not explain how crooked it is. Lay a straight one down by the side of it, and the work is well done. Preach the truth, and error will stand abashed in its presence.—Spurgeon.

A FEW COMMENTS

I started a short note on the case mentioned in August, "The Cause of Baby's Death," and then tore it up, but as this month there is an answer as irrelevant as would mine have probably seemed, I will send my guess.

As preface—when our great earthquake came, my obstetric work in San Francisco showed I had brought three hundred babies into the world. I have been in active practice thirty years.

My guess is, ruptured hepatic artery, slow hemorrhage. No data are given to prove that there may not have been gumma. Autopsy probably would have shown a liver enormously distended with blood.

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Hail to Dr. Page! When a poor devil of a rich man or one prominent in the public service gets sick, it is usually "Curtain."

Just note that, almost without exception, every candidate or incumbent of high office who starts on a speech tour of the country is sick before his itinerary is finished. He is dined and fed up till he is a walking cesspool and then his tired guts overcome the guts he has to go on.

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The discussion of country versus city doctors does not seem to me as much the issue as that of being a real physician. The schools are no longer turning them out.

The training of today is sending out a horde of men with minds so filled with socalled science and complicated technic, that the plain truths of physiology, which patient research has given us, are almost entirely forgotten and, in the place of common sense, ignorant use of every imaginable vaccine, serum, as well as gland extracts is thrown at the public in the hope of "hitting something."

There are by far too many of this falsely educated type of "Treater" and his accompanying jackal with the ready knife.

My answer to "Country Doctor" is, be an educator in your community and it will not be long before the people will learn that you are different; that they are really receiving the worth of their money, instead of dope to change the symptoms from which they suffer.

I used to lose two or three thousand dollars in bad bills every year. Now, I do a cash business. Of course, I specialize in chronic diseases and can name my own terms. However, my plan could as well be applied to general practice.

I charge $25 for examination, which I make

as thorough as possible. Then, if I decide to take the case, I charge $15 per week daily treatment, paid in advance.

I issue a brochure containing about one thousand words, giving the simple salient points in physiology that must be observed if health be attained. This brochure is the result of thirty years' study, boiled down and simplified to the understanding of the average layman.

I find that the majority of the people who come to me are interested and eager for knowledge and few begrudge the $180 charged for a three months' course.

I firmly believe that there would be no other than the regularly trained physician employed and that the public, feeling it was getting the best, would shun the ignorant horde of practitioners now cutting into the practice of medical doctors, if this kind of a real effort were made to help people to know the laws of health.

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T. J. Henry. Dr. Candler was not criticized because he wrote against spiritism but because of his unfairness.

The reason why psychic phenomena are not given the same investigation in medicine as other fields, is because of just this attitude of the majority of our profession who cry fraud and humbug to anything philosophical that aims a blow at mind-crippling religions. Religions have always retarded progress.

Evidently, Dr. Henry did not read my reply to Dr. Candler very carefully or he would not impute to me a belief in any religion, least of all spiritist ideas. I made a plea for the same thing he has in this article; namely, investigation, not ridicule.

I have no belief or unbelief in a supreme being of any kind because my mind clearly shows me that the problem involved is as unanswerable as are the puny categories of time and space. However, I know immortality to be a fact that individuals may demonstrate for themselves, the same as other laws of nature, and it is independent of religious trappings. Likewise, it is not dependent on morality or immorality; its actions are automatic, irrevocable, absolute, hence eternal.

Most of the phenomena of spiritism are undoubtedly, as Dr. Henry concludes, purely radioactivity of mind acting through magnetism.

Evidences of immortality are all about us and need but little thought to make them apparent to us.

No scientific investigation has shown anything to disprove that nature endows the human race with the desire for and faith to believe in immortality. It is innate and not a matter of education; for, even the lowest intellects have it.

F. G. DE STONE.

Turlock, Cal.

NEW METHODS TO WASH YOUR FACE

"Palmolive Fellowship" at Cornell University to Reveal Secrets of Soap

Milwaukee, Wis., Oct. 9, (Special)—Chemical authorities in the universities have decided that the American people must be taught how to wash their faces and their family linen scientifically.

For the first time in history, a concerted effort to experiment with the detergent action of soaps will be launched, this autumn, in the great laboratories of Cornell University, as the result of the announcement of the winner in the first "Palmolive Fellowship" by a group of leading scientists and chemical authorities here today.

Paul H. Fall, of Chicago, has just been awarded the $2,000 fellowship, to be given annually by The Palmolive Company, so that he may devote himself to the purely scientific study of the chemistry, physics and colloid principles affecting soaps. Mr. Fall, himself a college professor, has decided to make his experiments at Cornell University, according to an announcement today by Prof. Victor Lenher, professor of chemistry at the University of Wisconsin, a member of the distinguished "Palmolive Fellowship" Committee.

Prof. Fall will be assisted in his research studies in soap by W. B. Bancroft, professor of chemistry at Cornell. He will attempt to uncover the secrets of soap, new ways to manufacture it, so that it may be used with scientific accuracy in cleansing the skin, as well as clothing, woodwork, dishes, etc. This experimenting in the college laboratory will be of great assistance to the entire soap manufacturing industry, according to Professor Lenher.

"Scientists today are intensively studying the chemical effects of our daily foods, the clothes and shoes we wear, new ways to get more power out of the gasoline for our automobiles, better ways to make all of our daily necessities," said Professor Lenher. "So, why has there never been a concerted effort to study soap, too? We expect great things of

this scientific project. It may even change the cleansing habits of the nation. But, we can say nothing more until after the first year of the fellowship has ended."

DIAGNOSTIC QUARTETS:

[*Concluded from September issue, p. 700*]

Paralysis Agitans

1.—Onset gradual.

2.—Extremity, forearm, hand can be controlled, face expression lost, speech slow, thumb and fingers ("crumble bread") restless.

3.—Melancholia.

4.—May be mild dementia.

Paralysis, Infantile

1.—History of disease, prodromata.

2.—Slight fever, 101-103° F., vomiting, diarrhea, slight headache, convulsive seizure (once or twice).

3.—General paralysis, then residual in two or more limbs or muscles, cold and cynosed.

4.—Cranial nerves normal.

Parotitis

1.—Incubation 2 to 7 days. Temperature 103-104° F.

2.—Pain below and pushing back lobe of one ear, then of the other.

3.—Enlarged parotids.

4.—Orchitis, mastitis, ovaritis, vulvovaginitis.

Pernicious Anemia

1.—500,000 red cells, hemoglobin diminished.

2.—Leucocytosis slightly diminished.

3.—Scanty blood plaques.

4.—Poikilocytosis, nucleated megaloblasts and normoblasts, mononuclear, Eichhorst's corpuscles.

Pneumothorax

1.—Enlargement and immobility on bad side.

2.—Fremitus diminished over air, absent over fluid and changing with position.

3.—Above level, amphoric breathing and moist rales.

4.—Below level, absence of voice sounds.

Pneumonia (Lobar)

1.—Winter, pneumococcus and other germs; sputum frothy, then rusty.

2.—Severe and protracted chill, 103 to 104° F., strong full pulse.

3.—Embarrassed heart action, dull, sharp pain near nipple.

4.—Inequality of eyes, flushed mahogany face, blue lips, coated tongue, crisis 11th day.

Pregnancy (Ectopic)

1.—History of venereal disease, miscarriage, abortion, etc.

2.—Attacks are sharp, threatening, fear inspiring, profound shock.

3.—Look to growth and shape. History of 6th or 10th week.

4.—Irregularity, abundance of menses about usual time.

Rachitis

1.—Various changes in head, chest, lung, bones; apex shoved to left, left-sided cardiac hypertrophy or dilatation, retraction of left side from chronic lung or pleural disease; right-sided pleural effusion, abdominal growth, pericardial effusion.

2.—Feverishness nights, head perspiration, different tenderness.

3.—Nausea, vomiting, abdominal distension, diarrhea, nervousness, convulsions, poor dentition.

4.—Pseudo-paralysis.

Rheumatism

1.—Sore throat, tonsillitis, pains in joints.

2.—Sudden onset, chills, rapid rise, fever, tongue heavily coated.

3.—Constipation, scanty, urated urine.

4.—Ankles, knees, elbows, wrists red and swollen.

Salpingitis

1.—History of venereal, heart or kidney trouble, phosphorus poisoning, extensive burns.

2.—Annoying pains, reflex backache, pains in thigh, prolonged suffering, gradual weakening.

3.—Gradual development.

4.—Chills and fever when pains are present; discharge from vagina.

Signs of Death

1.—Cessation of circulation, respiration; put mirror to mouth, squeeze finger ends.

2.—Eye insensible to light; use candle.

3.—Pallor and vigor, loss of heat.

4.—Lividity, putrefaction.

Smallpox

1.—Incubation, 9-14 days, severe chill, sudden invasion.

2.—Pale face, leaden hue, headache, pain in lumbar region and extremities, vomiting. Temperature 103-104° F.

3.—Purpura, and erythematous, diffuse or macular rash on lower abdomen, inner thigh surface, sides of thorax and axillæ, and especially on palms of hands. 4th day eruption appears as small red papules on forehead (face first) along line of hair, wrists, extremities, trunk and mucous membranes. Feels

like shot under inspecting fingers. Temperature falls with rash. On 5th or 6th day papules umbilicated. On 8th, pustular; surrounding skin red, swollen, painful, rise of temperature for 24 hours.

4.—Desiccation on 10th day, pustules dry, crusty, no swelling of skin. Fever by lysis.

Tuberculosis

1.—Loss of weight.

2.—Undue fatigue.

3.—Afternoon fever, some digestive trouble, hacking cough.

4.—Light tinge of blood in sputum: later, contains folecocle hartli.

Tuberculosis (Acute)

1.—Flattening of chest, fremitus increased.

2.—Cracked-pot sound, empty vocal resonance.

4.—Pain in chest, hot skin, dyspnea, cyanosis.

Pulmonary Tuberculosis

1.—Rapid, dicrotic pulse—140.

2.—Cough and glasing sputum.

3.—Pain in chest.

4.—Indigestion, emaciation.

Tumor (Cerebral)

1.—Pain in head.

2.—Choked discs.

3.—Slow pulse.

4.—Projectile vomiting.

Tumors

1.—Tuberculous; sticky and grumous discharge.

2.—Hard: not large.

3.—Soft: very large.

4.— Cysts: excessively large and flabby.

Typhoid Fever

1.—Abdominal tenderness, rose-colored spots, tympanites.

2.—Heart weak, dicrotic, thready.

3.—Tongue pointed and edges red, peculiar odor, face dull, dilated pupils.

4.—Coffee-ground stool, delirium, coma.

Aortic Cases

1. Reddish zone (crescent in shape, convex down) exactly above manubrium sterni.

2. Sunburn crescent leaves off abruptly at the fossa jugularis and over the clavicle. A strip of normally pigmented skin is seen above this region reaching up in both sides to circular line of collar boundary.

3. This sign indicates atheromatosis, aortic-valve lesion, aortitis luetica.

4. Hypersensitiveness in head zones.

Arthritic Diathesis

1. Gout—incomplete combustion of albuminoid substances.

2. Obesity—adipose surcharge of cells.

3. Diabetes—non-tolerance of carbohydrates.

4. Basal metabolism is decreased in 2 and increased in 3.

Fibroid Trio

1. Bleeding.

2. Pain.

3. Lack of space.

Flat Feet

1. Feet broader, flatter, longer.

2. Calcaneus turned outward.

3. Inner edge of tendo Achillis extends downward and touches inner edge of foot—outer edge protrudes most markedly.

4. One or two projections under inner malleolus formed by os navicular and the head of the talus.

Rectum (Cancer)

1. Constipation alternating with diarrhea.

2. Slight tenesmus.

3. Pain and bleeding.

4. Penetrating odor from passage of blood with pus and slime.

Sclerosis (Multiple)

1. Nystagmus.

2. Hesitating speech.

3. Intention tremor.

4. Spastic paraplegia of legs—in advanced stage.

JOHN PRICE.

Denver, Colo.

BIRTH CONTROL

By Mrs. George H. Tichenor, Jr.,
New Orleans, La.

Can you face your God and Maker
With pure unsullied soul?
Would you stoop to stain that precious gift
With sin of birth control?
Have you not heard the blessed words
That He once gave to thee:
"Suffer thou the little ones
That they may come to me"?
Forbid them not, He also said—
Command most sweetly given.
For of these little souls is made
My Kingdom up in Heaven.

Then stoop thou not to cast a shade
Upon thy soul so true
'Tis but a part of God on High
Who loaned it out to you.
'Tis but a Jewel from out His Crown
He gave to earth one day,
And asks that it unsullied be
Returned from earthly clay.
Then why not keep it pure and true
As it was to thee given—
Let infant hands then touch it now,
And make it fit for Heaven.

RED CROSS INSTRUCTION IN HOME HYGIENE AND CARE OF THE SICK

IN order that simple theories of household sanitation and practical, easily-acquired methods of nursing procedure may be accessible to women and girls, the American Red Cross conducts an extensive system of class instruction in Home Hygiene and Care of the Sick.

This course of instruction was contemplated by the Red Cross as early as 1908, when the District of Columbia Chapter organized classes in Home Nursing. Following the affiliation of the Red Cross with the American Nurses' Association in 1909, this project was further developed and, in 1913, a text-book, written by Miss Jane Delano and Miss Isabel McIsaacs, was published and subsequently became the basis for the instruction which the Red Cross has, since 1914, given to over three hundred thousand women and girls.

The aim of the Red Cross course in Home Hygiene and Care of the Sick is two-fold. The first lies in the remedial field and consists in trying to teach the elementary principles of nursing, personal hygiene and household sanitation to all types of women and girls, so that, in time of national emergency, when a shortage of professional nursing service may exist, and also in time of minor illness in the home, the women and girls of the family may be able to care for the sick in their homes.

The second aim of the course lies in the preventive field of health education and consists in teaching women and girls to assist in checking infant and child mortality by the intelligent care of babies and children and to further adult health and efficiency by the prevention of avoidable diseases and the control of communicable ones.

The classes in Home Hygiene and Care of the Sick are conducted by authorized Red Cross nurse-instructors who give demonstrations interwoven with theory. The students then practice what the nurse has shown them. This instruction covers a period of not less than 24 hours and ends in practical and written tests. There is now offered a standard course which is given to women and girls who possess the educational attainments of the high-school student; an adaptation of the standard course which has been prepared so that teachers of physiology, biology, home economics and physical training may instruct classes in the theory of the course and thus conserve the time of the Red Cross nurse-instructors; and a modified course which is offered to women who know very little English and to girls below high school age—such as grade pupils, camp-fire girls and the like.

Purely educational as are these courses, through them the American Red Cross is rendering a highly practical and worthwhile contribution to the betterment of individual and community health, a contribution which should earn for this great humanitarian organization the interest and support of physicians during the Red Cross Roll Call, to be held between Armistice Day and Thanksgiving, November 11-29.

THE CONSTITUTION CORRUPTED

The constitution's battered and it's twisted out of shape,
By the vicious legislation that has followed in its wake,
By the laws that are enacted in the interest of the few,
And the tolerance of a lobbyist to buy the measures through.

The laws are not enacted as in the days of yore.
But bought into existence which is a perfect bore.
Where is the legislator whose support you cannot buy?
If you told me he existed, I would think you told a lie.

Dictate a man to office, and what more can you expect,
The rich man does the choosing and the dollar does elect.
Money seeks the office with the man that it can buy
Full measure of corruption is cast in every die.

The constitution gave us what we do not now possess.
The freedom of our speech and the freedom of the press,
Then, is it any wonder, when you stop to look around?
That the laws are not respected the way that they are found?

W. C. Scott.

Lindsey, Ohio.

What Others are Doing

CARCINOMA OF THE BREAST

"Any lump in the mammary gland, occurring at any age, is pathological, does not belong there, and is potentially dangerous." That is the conviction voiced by Dr. J. S. Rodman, of Philadelphia, (*Atlantic Med. Journ.,* Oct.). Dr. Rodman does not agree with the more optimistic views recently expressed here and there, concerning the amenability of potential cancer to treatment other than surgical. He firmly believes that, "until much more evidence is presented increasing our too limited understanding of the normal and its physiological variations of the mammary gland, more lives will be saved by proceeding much as we do now in removing all benign tumors and sacrificing the gland, if necessary, in those past 35 years for 'benign' (precancerous) lesions, than by an elaborate subdivision of these cases into groups and sub-groups, each of which has its indications either for not operating at all or for removing the diseased area only."

Dr. Rodman's observations have led to the convictions that: 1) The symptoms of cancer of the breast, as ordinarily described, are, for the most part, late symptoms. 2) Until the actual cause of cancer is found and a new treatment based on that discovery is established, we must learn to recognize the "potentiality" of cancer rather than the "actuality." 3) The knowledge which we now have is sufficient to cure a much larger percentage than is now cured, if universally applied.

This leads naturally to a search for, and careful attention to, the socalled precancerous lesions, that is, lesions which may, in the course of events, become malignant. Of such "precancerous" lesions, Dr. Rodman finds the most frequent one to be chronic cystic mastitis; then, benign tumors of the gland, and papillary cystic adenoma.

While 50 percent of cases of definite carcinoma can be cured by the proper radical treatment, but not over 30 percent can be cured when the clinical diagnosis can be made with certainty, according to Dr. Rodman, we submit that it is difficult to make the diagnosis in those cases of possible carcinoma in which the clinical diagnosis can not be made. Excision for microscopic examination is justly condemned, because of the possibility of causing a dissemination of the cancer elements along the lymph paths. Then, how can the diagnosis be established?

However, Dr. Rodman declares that the percentage of cures should be much greater if all cases of a "precancerous" nature could get proper treatment—by which he means, complete excision of all suspected tissue.

INSULIN TREATMENT OF DIABETES

In discussing the insulin treatment of diabetes, Dr. J. D. Willis (*Va. Med. Monthly,* Oct. 1923) relates that Banting's work was based upon the observation that, upon ligation of the pancreatic ducts, there develop degenerative changes in the acini of the pancreas but not in the islet tissue. This observation was taken advantage of in the preparation of an active extract of islet tissue.

The animal experiments that were undertaken, in order to develop a perfect method, were numerous and they surely were worth while, in view of the fact that the clinical results are remarkable and striking.

When the work had progressed sufficiently for the method to be applied in humans, a potent soluble, protein-free extract of adult-beef pancreas was administered in seven cases of diabetes mellitus. It was found that, in the human cases, injection of insulin was followed by a fall in blood sugar and a rise in the respiratory quotient, indicating carbohydrate utilization. The patients reported complete relief from subjective symptoms of the disease.

The remarkable lowering of blood sugar by insulin makes it necessary that extreme caution be observed in its administration. Generally speaking, it is best to give insulin fifteen to thirty minutes before a meal, either once, twice or three times daily, according to the severity of the disease. Frequent blood-sugar estimations must be made, in order to intelligently control the dosage. There is great danger in reducing the blood sugar below the low normal of 0.08 percent. The outward manifestations of lowered blood sugar below

normal are weakness, nervousness and sweating. At this stage, immediate consumption of sugar in the form of oranges, corn syrup, or candy affords ready relief. If the reduction in blood sugar should be as low as 0.045 percent, there will develop a state of coma and convulsions. Glucose solution intravenously is necessary, should such a serious state develop.

While insulin has become a very important factor in diabetes therapy, it must still be considered as an adjunct to the dietetic treatment and the success of the therapy is largely dependent upon the intelligence and cooperation of the patient in carrying out dietetic instructions. After the blood sugar has become normal, it is often possible apparently to maintain the patient in good balance by small doses of insulin. In many cases, it seems that the remedy may be discontinued very soon after blood sugar becomes normal.

It has been asserted that the sudden drop in blood sugar after the administration of insulin indicates the resumption of the function of the islet tissue of the pancreas either wholly or in part. If that can be confirmed, it seems to us that the insulin treatment may, in many cases, be curative and that it may be possible to restore the pancreas to healthy functioning capacity; in other words, that it will not be necessary to continue the insulin treatment indefinitely. Indeed, it has been claimed that there is just as much reason to believe that a sick pancreas may recover by rest as a sick kidney.

QUINIDIN IN CARDIAC DISORDERS

While the possibilities and the limitations of the employment of quinidin as a heart tonic are not yet definitely established and while the use of this interesting remedy is not without possible dangers, it is interesting to note the fact itself that a derivative of quinine was found, about ten years ago, to exert a definite effect upon the irregular heart action known as fibrillation. It should be realized that the drug has not yet been sufficiently studied and that it is more suitable for treatment in the wards than for use in an outpatient department or in general practice. However, we are confident that the future will supply the knowledge that we are still lacking and that the promise of another useful heart remedy will be kept.

It has been found that about half the cases of fibrillation treated with quinidin regain normal rhythm and this seems to be the proportion in cases of fibrillation in which good results may be obtained. The general effect of quinidin on the heart appears to be depressant, and is exerted directly upon the cardiac muscle. Excitability is diminished, so that extrasystole or fibrillation can not be produced artificially and conduction is lowered in auricle, ventricle and junctional tissues. Various types of block have been produced experimentally, but these have rarely if ever been observed in the clinical use of the drug.

J. Morrison Hutcheson (*Va. Med. Monthly*, Oct., 1923) says that, when quinidin is given to a patient with fibrillation, the first effect is a slowing of the auricular rate with larger and more regular P waves in the electrocardiogram, a condition approaching auricular flutter. This occurs in the majority of cases treated, while in about half the cases the rhythm rapidly changes to normal. On the other hand, digitalis, which has been our main reliance in fibrillation, influences the rhythm little or not at all.

Improvement after quinidin therapy comes as the result of restored normal rhythm and is often most striking in those patients with fibrillation who are uncomfortably conscious of irregular heart action. Cardiac efficiency may also be favorably influenced by the removal of the additional burden of disordered rhythm, but the direct effects on decompensation which follow digitalis administration are not to be expected from quinidin.

When normal rhythm has been restored by quinidin, it is usually necessary to continue the drug either in small daily doses or intermittently. The duration of the effect is variable, lasting from a few days to several months. Frey states that two-thirds of his cases maintained a normal rhythm for at least one month.

The dangers from quinidin in heart cases are considerable, and should constantly be borne in mind. Certain individuals appear to possess an idiosyncrasy for quinidin just as they do for quinine, and alarming symptoms, such as sudden loss of consciousness with stand-still of respiration, have been observed to follow even small quantities of the drug. It has, therefore, become customary to precede quinidin therapy by single test doses of 3 to 4 grains of the drug in order to ascertain whether or not any such hypersusceptibility exists. Toxic symptoms, such as giddiness, tinnitus, intestinal cramps, and urti-

caria invite caution, but are not as a rule of serious import. Marked weakness, precordial distress or increasing breathlessness indicate withdrawing the drug promptly. Increasing ventricular rate, unless it marks the advent of auricular flutter, should also be regarded as a danger signal.

In cases with auricular fibrillation, a certain amount of clotting in the auricles is prone to take place. So, when normal rhythm is resumed and the auricle contracts fully, these clots may be detached. To this extent, therefore, quinidin favors embolism, and several deaths from this cause have been reported during its use.

X-RAY TREATMENT OF TUBERCULOUS LYMPH NODES

The surgical excision of tuberculous lymph nodes was formerly claimed by surgeons to constitute the best treatment for this condition. Repeated untoward accidents, especially occasional instances in which the operation was followed by a dissemination of tubercle bacilli leading to generalized acute miliary tuberculosis, have caused the tuberculosis physicians to hesitate giving their sanction to such surgical treatment lest their patients be gravely injured thereby.

In recent years, the x-ray treatment of tuberculous lymph nodes has been undertaken by numerous operators and it has been found advantageous in many instances. Philip H. Pierson (*Calif. State Jour. Med.*, Sept. 1923, p. 378) finds the chief differentiation between surgery and x-ray in the treatment of tuberculous glands to be that, while at operation a considerable amount of the focus is removed, some tuberculous tissue is still left and the system is placed in a state of hypersusceptibility predisposing to a recurrence locally or elsewhere, while, with radiotherapy, the glands locally are shrunken and encapsulated and by this gradual stimulation "autotuberculin" is manufactured, thereby favorably influencing any focus elsewhere.

It is very natural, Pierson says, to divide tuberculous glands into three groups, (1) the non-suppurating hyperplastic glands frequently found in children and very amenable to treatment, (2) closed suppurating or partly caseous lymphomas, and (3) open, suppurating, and partly caseous lymphomas. In glands that are purely tuberculous, while not as common in the cervical region in adults as in children, this form of treatment is most promising, and they should never be operated upon until x-ray, rest, and intensive hygiene have been tried. If with these small doses the central portion does soften, it will be very satisfactorily walled off, and a small incision or aspiration may be done to evacuate the caseous material. With continuance of x-ray, even this gland will be replaced by fibrous tissue and only a small nodule will remain. If not unsightly and if completed enveloped, this residual left in the system may be a very beneficial factory for "autotuberculin". If at some later time it seems advisable to remove this small nodule, an almost insignificant scar will remain.

If presented with a gland, or group of glands, starting to suppurate, x-ray should be used first to wall off the gland and so lessen the tendency to spread as the result of, or in spite of, the operation. The third type of lymphoma, where little is left of the original gland and the sinus communicate with a mass of matted tissue, x-ray in stimulating does destroy much of the granulating exuberant tissue and favors healing.

THE ADVERTISING PHYSICIAN

"The chief avenues of publicity for patent medicines and medical quacks have been and still are the newspapers and periodicals." Physicians who resort to advertising to get business are never reputable. In the August issue of *Hygeia,* Dr. Jacob A. Goldberg analyzes some glaring examples of apparently simple advertisements and shows that the statements made are specious and planned to deceive. He says that a man he knew went recently to a medical advertiser for an examination which was stated in the "ad" to be free. "He had to pay $10 as an initial payment, was told he had a disease of the blood, and that for $100 he would be treated successfully." This man was not sick and there were no evidences of any blood disease.

(*Concluded from page* 823)

"Sthill, me bhoy, if I use the proper financial acumen, I can make these other ordinary Specialists pay for the building and sthill pay me rint. Iverything depinds upon the way it is done and, if this thing works out the way it should, I'll be able to pay me bills and retain the confidence and respect of me fellow man. As it is, I can't do the one and the Pussy-Practicians are robbin' me of th' other. It's the divil's own mess and the Saints only know where we shall wind up—unless something drastic is done."

Among the Books

SOME BOOK CATALOGS

Some of the catalogs issued recently by publishers of medical books are extremely interesting and attractive. We have received, for instance, from W. B. Saunders Company, West Washington Square, Philadelphia, "a descriptive catalog of books medical—surgical —veterinary—dental—nursing. Many of the books and systems that are described in this list we have reviewed in CLINICAL MEDICINE. For instance, Warbasse, "Surgical Treatment"; "The Mayo Clinic Volumes", and Scudder, "Treatment of Fractures", and many others.

The C. V. Mosby Company, St. Louis, Mo., has just issued a list of "new and standard medical, surgical, nursing, dental publications" in which we find such splendid books as Horsley, "Operative Surgery", and Hertzler, "The Peritoneum", Barnes, "The Tonsils", Hirschman, "Diseases of the Rectum", Bram, "Exophthalmic Goiter and Its Nonsurgical Treatment", Vaughan, "Epidemiology and Public Health", Crossen, "Diseases of Women", among numerous others.

The Macmillan Company, 64-66 Fifth Ave., New York, also has published a fall announcement of new Macmillan books in which several pages are devoted to medical and nursing books. Zinsser's splendid work on "Infection and Resistance", for instance, is a Macmillan publication. So are Massey, "Practical Electro-Therapeutics and Diathermy", Franz, "Nervous and Mental Re-education".

Even though our book fund may be low and we can add only an occasional new acquisition to our library, it is a pleasure to look through these medical book lists and we have thought it right to call the attention of our readers to these and to similar catalogs that are issued occasionally.

IMPORTANT NON-MEDICAL BOOKS

Among recent or forthcoming publications of the Macmillan Company, we are impressed with two which must be of interest to thinking people and therefore, of course, to physicians.

Doctor Ellwood's new book, "Christianity and Social Science", has brought the following in a letter from Professor E. A. Ross, of the Department of Sociology at Wisconsin University.

"Professor Ellwood's book is simple, logical, and profound. I hope that the clergy will heed this friendly hand that Professor Ellwood, on behalf of the sociologists, holds out to them. I notice that in my time the sociologists are constantly becoming more sympathetic with what the preacher is trying to do, but this change of attitude implies that the preachers should, on their part, become more attentive to what the sociologists are trying to say.

"I hope that Professor Ellwood's masterly and eloquent book will do much to draw together clergy and sociologists in resistance to rebarbarizing influences such as war, militarism, commercialism, and class strife."

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"The Irresistible Movement of Democracy" is the impressive title of a new Macmillan book by John Simpson Penman. Mr. Penman traces the rise and progress of the democratic movement in England, France and America, brings out forcibly the growing importance of public opinion and the power of the masses, and maintains that, "Unless the conservative classes can take to heart the lessons from history and experience and adjust themselves to the new political and economic conditions, they will be thrown aside in the march of democracy."

He holds that socialism would take from democracy the liberty of the individual and the freedom of the nation. "It may be," he writes, "that society will have to pass through the experiment of socialism to learn by bitter experience that a social system established by the power of democracy may become an instrument to destroy everything that is worth while in the democratic system."

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Frederick A. Stokes Company announces some books that physicians will find interesting, both for themselves and for some of their patients.

One of Stokes' most important fall publi-

cations will be Commander Frank Wild's graphic and authentic account of Shackleton's last and fatal journey to the far South. It is entitled "Shackleton's Last Voyage: The Story of the Quest", and was to be ready in October. The narrative is based directly on the Official Journal and Private Diary kept by Dr. A. H. Macklin during the voyage, and is written by the man who took over command of the Expedition at Sir Ernest's death.

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A clean, cheerful novel, with a good story, to read or send to an invalid is difficult finding nowadays. Stokes announces three novels on their Fall list which qualify: "Emily of New Moon", by L. M. Montgomery; "Come Home", by Stella G. Perry, and "The Exile of the Lariat", by Honore Willsie.

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Those who felt the romance and the living story back of the recent discovery of Tutankhamen's tomb will enjoy Richard Govne's romantic novel, "The Kiss of Pharoah" (Stokes), which deals with this young monarch's brilliant reign.

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"I confess that I like a book to be readable, and it seems to me that a capacity for entertaining a certain number of people is the chief justification for writing novels." Compton Mackenzie, author of "The Seven Ages of Woman", is thus quoted in St. John Adcock's book of modern criticism, "Gods of Modern Grub Street". Mr. Mackenzie deprecates this as a "low-browed ambition" but says, it was high enough for the great novelist of the past, before the coming Freudism. "A novelist's real business is not to analyze states of mind and emotions but to dramatize them."

GANT: "RECTUM, ANUS AND COLON"

Diseases of the Rectum, Anus and Colon. By Samuel Goodwin Gant, M. D. Three Octavo volumes totalling 1616 pages with 1128 illustrations on 1085 figures and 10 insets in colors. Philadelphia and London: W. B. Saunders Company. 1923. Price $25.00.

Much credit is due the publishers in producing this most creditable example of American book-making. The volumes are pleasing in external appearance and, when opened, they lie flat. The type is large and clear, printed on glazed paper, and the whole is illustrated with a profusion of drawings, color plates and photographs which are so descriptively vivid and labeled with such explicit legends that, almost without the text, the operative procedure may be visualized.

The work is a veritable mine of authoritative information. The text is particularly pleasing in that the reader is presumed to have a fundamental understanding of the subject. In the chapter on anatomy, the author reviews only those intrarectal and perirectal structures which later become factors in studying the pathology. He then launches into the consideration of examination and diagnosis of the stomach, small intestine, colon, rectum and buttocks, and describes in the text and by illustration every possible means of obtaining information about these organs. Many of the reasons why the inexperienced fail to derive a full information are also shown.

In the chapter on anesthesia, the subject of local anesthesia is well taken care of. Spinal, sacral and infiltration methods are discussed and the limitations as well as the desirable features of each method are mentioned.

All through the work, the author describes with much detail his own technic of treatment and without wasting mention of obsolete or worthless methods. It is almost invidious to single out any special chapters, but those on "Proctitis, Periproctitis and Diverticulitis are so particularly interesting that they impress the reader with the author's infinite care and attention to the little details by which he successfully carries his patient through the indicated treatment, surgical or otherwise, and never forgetting that attention to a safe convalescence is a part of the treatment.

The latter half of this work is reserved for affections of the colon and ileocolic angle and represents the crowning efforts of the author's persistent study of intestinal parasites, dysentery, constipation, tumors of the colon and focal infection of the colon, sigmoid flexure and rectum. These chapters vividly present much new material and add interest in subjects which are discussed every day and everywhere. The presentation of cecostomy, ileocecostomy, and appendicostomy are particularly fascinating, showing the author's original technic with his own instruments.

CHARLES DRUECK.

TIGERSTEDT: "PHYSIOLOGY OF CIRCULATION"

Robert Tigerstedt: Die Physiologie des Kreislaufes. 2. sehr start vermehrte und verbesserte Auflage. Berlin und Leipzig: Vereinigung wissenschaftlicher Verleger. Walter de Gruyter & Co. 1. Band, 1921; 2. Band, 1921; 3. Band, 1922; 4. Band, 1923.

Robert Tigerstedt is Professor of Physiology at the University of Helsingfors, in Finland. He is well known for having written the best textbook on physiology and also as the editor of the Scandinavian Archive of Physiology which is now in its forty-fourth volume. This great scholar has devoted special attention to the physiology of the circulation, collecting the results of his own labors and of those of others in the work announced in this article. The book is printed in German and comprises 1524 pages.

I announce it in this journal because it is indispensable for research workers of every nationality. It considers the international literature of physiology, including the American, references being cited on each page in the form of footnotes. At the end, there is an index of names and of subjects. In preparing the index of names, Tigerstedt has made an innovation of mentioning, with each name, the subject concerning which the author in question has published and which, naturally, can easily be found with the guidance of the page number. The index is very detailed and makes it possible to use the book as an excellent reference work.

The chapter headings, after an introduction devoted to the history and to comparative physiology, are as follows:

The Mechanical Work of the Heart (containing a long article on the chemical requirements for the heart beat); The Innervation of the Heart, The Blood Flow in the Greater Circulation, The Lesser Circulation and the Respiratory-Pressure Variations in the Greater Circulation, The Action of Internal Secretions and of Organic Secretions Upon the Circulation, The Innervation of the Blood Vessels, The Distribution of Blood in the Body.

Those who investigate the problems of circulation will save much time and labor by consulting Tigerstedt's work which not only cites the literature deposited in books but also refers to numerous smaller articles which are scattered in periodicals printed in numerous different languages.

ALFRED MARTIN.

Bad-Nauheim, Germany.

ELIAS: "BEDSIDE EXAMINATIONS"

A Clinical Guide to Bedside Examinations. By Dr. H. Elias, Dr. N. Jagic and Dr. A. Luger. Arranged and Translated by Wm. A. Brams, M. D. New York: Rebman Company. $1.50.

It is not only highly important that the examination of patients presenting for treatment be undertaken in a thorough manner, but it is desirable that the procedure follow a certain course and that the findings be recorded in a definite manner. In this way, uniformity of the clinical records is secured and the study of disease phenomena will be facilitated by the examination of numerous clinical records which are comparable because they are uniform.

Ordinarily, it is to be feared that the examination of the patient is often not thorough enough or sufficiently complete. A study of the little book before us will suggest a course of procedure and also will tend to prevent important things being overlooked.

FRAMINGHAM MONOGRAPH No. 9

Framingham Monograph No. 9. Medical Series IV. Influenza: Framingham Epidemic and Post-Epidemic Observations. Framingham Community Health and Tuberculosis Demonstration of the National Tuberculosis Association.

This is the ninth of a series of publications issued by the Community Health and Tuberculosis Demonstration at Framingham, Mass. It is the fourth of the medical series and deals with influenza. It goes without saying that the organization of the Health Demonstration in Framingham afforded exceptional opportunities for cooperation with official and nonofficial groups in fighting the influenza epidemic, in observing the disease and its subsequent effects upon the population, especially in its relation to the group of individuals with active or arrested tuberculous disease.

We have here a unique study of the normal urban population group after an influenza epidemic. This study has been very thorough, including statistics of mortality and morbidity and also the results of nursing visits, correspondence, and also of actual, thorough physical examinations by specialists in thoracic diseases.

There are several important conclusions arising from this study which refer to the fair amount of immunity produced by the one attack of influenza; to the habit acquired by a fairly large percentage of people of going to their own physician for examination; to the fact that cardiac signs seem to be stirred up in some of the victims, and to the consoling fact that the influence of influenza upon tuberculosis seems not to be quite so serious as had been supposed.

HIRSCH: "HEALTHY LIFE"

Healthy Life. A letter to boys and young men on the origin of life and the truth about sex. By Edwin W. Hirsch. Chicago: The Solar Press, 209 South State Street. 1923.

Here is a small pamphlet, only eighteen pages of reading matter, on the origin of life and on sex matters. It goes without saying that the subject cannot be discussed in great detail in so small a space. However, that is not necessary. The letter, which the text purports to be, from the Family Doctor to a young boy at school, gives enough information to be useful in several directions. It satisfies a natural curiosity as to how plants, animals, humans, are procreated and their kind is perpetuated; how the principles concerned in this process affect the human race very intimately, how they have been abused, what are the consequences of this abuse and how they can be avoided.

The story is told tersely, concisely and with strict regard to truth. Upon the wide-awake boy at school, it will have an unavoidable effect: It will arouse his interest in nature study; then it will awaken in him a great affection for all living things, or strengthen it if it exists. Finally, it will imbue him with a feeling of awe, when he must marvel at the wonderful mechanism through which all living things are kept from dying out, through the continued production of the young of their kinds.

Naturally, he will want to know more. That, though, is provided for. The Doctor, who indites the letter, offers further and more detailed information. If the printed letter makes the boys think, so much the better. Let them come to The Doctor and let him guide and counsel them. True, sincere knowledge, honestly applied, is never dangerous. It is a incentive to make the best of ourselves. It is half-knowledge or bad knowledge that harms. Doctor Hirsch has wrought well with his Letter.

BLOOD PRESSURE

The issue, for last June, of *American Medicine* was devoted entirely to discussions of blood pressure which is justly called one of the most important problems in medicine today. Among the contributors to the number are such well-known men as: Sir Clifford Allbutt, Cambridge, England; Sir James Barr, Liverpool, England; Sir Arbuthnot Lane, London, England; George W. Crile, Cleveland, Ohio; Reynold Webb Wilcox, New York City; Charles E. de M. Sajous, Philadelphia, Pa.; Louis Faugeres Bishop, New York City; J. Madison Taylor, Philadelphia, Pa.; Joseph H. Barach, Pittsburgh, Pa.; J. Henry Dowd, Buffalo, N. Y.; Harold Hays, New York City; Edwin P. Robinson, New York City; W. L. Benedict, Rochester, Minn.

The number contains twenty-seven original articles on various subjects connected with blood pressure. There also are numerous abstracts from current literature dealing mostly with the same subject.

The Reviewer can hardly be expected to abstract any of the articles contained in this issue. They are all useful and, indeed, the June number of *American Medicine* constitutes a singularly complete and comprehensive contribution to the subject.

The subscription price of *American Medicine* is $2.00 a year in advance. Single copies can be had for 25 cents. The address is 18 East 41st Street, New York City.

PHILADELPHIA"

Transactions of The College of Physicians of Philadelphia. Third Series. Volume the Forty-fourth. Philadelphia: Printed for the College. 1922.

This volume of transactions contains a number of very interesting and practical papers that had been presented at the meetings of the College. We are glad to possess the volume and hope to pass on some of the information contained in it to our readers, later on.

"CANCER"

Cancer. A Practical Quarterly Journal Devoted to the Best Interests of Cancer. Vol. 1. No. 1. October, 1923. Edited by L. Duncan Bulkley, M. D. Associate Editor Clarence D. Daniels, M. D. Collaborators A. Hirst Appel, M. D., Seelye W. Little, M. D., Russell W. Kelsey, M. D., Edward Preble, M. D., and Thomas L. Stedman, M. D.

The new journal announced a few months ago and which is to be devoted to the best interests of cancer has made its appearance, the initial number being that for October. The journal is edited by Dr. L. Duncan Bulkley, whose associate is Dr. Clarence D. Daniels, and as collaborators are enumerated, Dr. A. Hirst Appel, Dr. Seelye W. Little, Dr. Russell W. Kelsey, Dr. Edward Preble and Dr. Thomas L. Stedman. F. A. Davis Company, Philadelphia, are the publishers and the price for the volume is $5.00.

As is well known, Doctor Bulkley has, for many years, proclaimed loudly and urgently the opinion that cancer is not a localized disease which is amenable solely to surgical treatment. In fact, he claims that the localized cancerous lesion is a terminal result of cancer disease which latter must have been existing for a considerable period before it expressed itself in a local lesion. By way of corollary, Doctor Bulkley and others working along the same lines have attempted to treat the cancer disease, whether it had found expression in definite cancer lesions or not, and the view that surgical cancer (whether operable or inoperable) is merely the expression of a systemic disturbance is now being fostered by this journal, the contents and program of which promise well.

After the foreword by Doctor Bulkley, in the name of his collaborators, the first original article is by Dr. Thomas L. Stedman, formerly and for many years editor of the *Medical Record*. Doctor Stedman points out that the opposition which the views of Bulkley and the others have found in surgeons and animal experimentors is not only unjust but is entirely true to form. "The history of the progress of science," he declares, "and perhaps especially of medical science, is stained with countless instances of mud-slinging by men of keen intellect but narrow minds, and even by socalled learned societies which persecuted and expelled such of their number as dared to advance opinions or announce discoveries which did not agree with the generally accepted teaching."

Doctor Stedman claims the right of research devoted to the study of the clinical treatment of cancer. This, moreover, is fostered by the Cancer Commission of Harvard University which decided, some years ago, to drop mice inoculations to devote its resources to this study of the clinical treatment of cancer.

To general practitioners who are not necessarily surgeons the possibility that cancer disease may be amenable to treatment before it has entered the terrifying surgical phase is naturally attractive. Anything that contributes to the solution of the cancer problem is worthy of a hearing.

DOBLE: "URETHROSCOPY"

The Urethra and the Urethroscope. A Manual of Practical Urethroscopy. By F. Carminow Doble. With Foreword by Kanor A. T. Frost. London: Oxford Medical Publications. 1923.

This small book is written for practitioners in the small towns who have not the time or the opportunity to attend demonstrations in the art of urethroscopy and who find, when they try their prentice hands on some patient whose urethra they wish to examine, that they are unable to tell whether the condition they see is normal or not. One does not have to be a specialist in order to appreciate this useful volume with its clear, concise text. The selection of the subject matter is quite sufficient for practical purposes. The illustrations are helpful.

While the book is much smaller and more condensed than the American translation of Luys' "Treatise on Cystoscopy and Urethroscopy", it may, perhaps for that reason, be more acceptable to general practitioners and surgeons who do not specialize in genito-urinary diseases.

GOADBY: "DISEASES OF THE GUMS"

Diseases of the Gums and Oral Mucous Membrane. By Sir Kenneth Boadby. London: Oxford Medical Publications. 1923. Price $14.00.

In recent years, frequent consultations between physicians and dentists have become necessary, owing to the recognition that many mouth conditions are neither purely medical or surgical nor exclusively dental, but that both physicians and dentists must cooperate in order to procure the best possible results for the patients. The book, which is here announced, gains in value by comprising mainly the personal observations of the author during the last twenty years. That makes for uniformity of treatment. However, the work of others has not been ignored and numerous literary references at the end of the chapters attest this fact.

LAWSON: "WAR BLINDNESS"

War Blindness at St. Dunstan's. By Sir Arnold Lawson. London: Oxford Medical Publications. 1922. Price $2.50.

Here is an interesting volume describing the reconstructive work done at St. Dunstan's for the blind victims of the war. It covers over five years of medical work and contains an analytical record of wounds or disease by which 825 men of the British Army lost their sight in the Great War. The first part deals with traumatic blindness; the second with non-traumatic blindness. Part Three discusses pensions for and reeducation of the blinded soldier.

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Christmas

AS these lines are being written, Armistice Day has just passed into history, although the schools are celebrating it on this day, November 12. On Armistice Day, five years ago, a peace message was flashed all over the world, hostilities between all the nations concerned in the gigantic struggle of the World War ceased, and everybody thought that, peace being declared, the work of reorganization and the resumption of peaceful pursuits might progress unhampered. As a matter of fact, war is by no means over and peace on earth seems to be as much of a dream, politically speaking, today, as it has been at any time in history.

Conferences are being held, efforts are being made, prizes are being offered, all in the attempt to discover ways and means by which international peace might be established and maintained. We believe that all these efforts are useless so long as human nature is what it is. And, after all, the peculiarities of peoples and of nations merely are in a greater, larger aspect what human nature is in the individual.

Peace on earth, to us, depends upon the greatest message that the Prophet of Nazareth promulgated, the method that all "saviors" before him had announced, the same that Siddartha had insisted upon 500 B. C., namely: "All things whatsoever ye would that men should do to you, do ye even so to them" (Matt. 7:12). It is the message of the Golden Rule.

When we were young, and when the peoples were young, we and they wished each other a Merry Christmas. As we grow older, the merriness often seems forced and artificial. We should be content with a *happy* Christmas. We should rejoice in evidence that would lead us to expect a greater consideration for each other, not only individuals but peoples and nations. A truly happy Christmas message and Christmas gift could come to the world only by the exemplification of the Christmas spirit which is that of *peace on earth to all men who are of good will.* The Bible does not say, "good will to all men", but it makes the peace on earth conditional upon the good will of all men. Therefore, the Christmas message is for those who are willing to give as well as to take, not penny whistles and pounds of candy, but service, helpfulness and affection. It is the same, as we have said before, as the Golden Rule, and we can think of no greater or truer Chritmas message than

the one pronounced on the Mountain: "All things whatsoever ye would that men should do to you, do ye even so to them".

The Man who once most wisely said,
"Be sure you're right, then go ahead,"
Might well have added this, to wit:
"Be sure you're wrong before you quit."
—City Manager Magazine.

CHARITY DESERVED AND UNDESERVED

The days, when charity could be dispensed haphazard and merely because of the desire either to relieve distress or to remove harrowing scenes from one's consciousness, are gone, just as are the days of the Cheeryble brothers whose beneficence was cloaked under a pretended shrewd business reason but was, nevertheless, genuine and spontaneous. Many times, the sort of charity that is bestowed most easily, simply by putting your hands in your pocket and scattering largess, is not always the best thing; in fact, more often it is abused and, certainly, it has created professional beggars who infest the streets even of well policed places like our metropolitan cities and still more the towns of the far east, where they constitute a veritable pest.

With physicians, the question of charity has always been so much a matter of course and it has so entirely been considered an inevitable part of the physician's work to devote a considerable portion of his time and efforts for charity's sake that some men were obliged to set aside one hour every day for gratis consultations (that was before the days of the free dispensaries), and it is told of a certain French physician that, in his ledger, he had a separate page in which a goodly proportion of his services were entered, all of them being charged to "Le Bon Dieu."

More recently, attempts have been made to regulate the charity work that is done by physicians, to limit the services given in dispensaries to people who are really deserving and truly unable to pay in money, and to relieve the physician's private practice of this encroachment upon his time and effort. It will never be possible to eliminate charity from the physician's work entirely. Moreover, it is not desirable that it should be possible. Some of the most satisfactory results of many practitioners have been in charity cases. Some of the greatest and deepest joy of accomplishment has come from charity practice. Nevertheless, the line should be drawn somewhere, even though, in private practice, this drawing the line must be left to the physician.

It is in organized charity, in cases where the applicants for assistance are investigated and card-indexed and approved, where it seems that abuses of charity might be almost eliminated. And, yet, we find it said (in *Better Times*, October, p. 10) that much of the organized charity miscarries and is bestowed upon the undeserving. It has been estimated that $200,000,000 is devoted every year to American charity. Statistics from 129 American cities, where central financing of philanthropy exists and thus made possible an estimate, show that contributions were received last year from 21,000,000 persons (these cities are exclusive of New York, Boston and Chicago). The average per capita contributed by the inhabitants of the 129 cities amounts to $1.71.

In order to determine whether all this money went to legitimate properly managed organizations, the National Information Bureau investigated 2,000 social agencies with the result that, in approximately one-half, conditions are tolerated that are definitely unsatisfactory. It is unfortunate that ignorance of, or indifference to, these conditions make possible the continued activities of a large group of undesirable organizations whose appeals flood the mails, whose solicitors stalk their prey (and their commissions) from door to door and whose benefits, which benefit only the promoter, crop up for every conceivable need, fancied or real.

Winifred C. Putnam, of the National Information Bureau, who contributes the article in question to *Better Times*, says:

"The fact that fraudulent and undesirable organizations still exist is certainly in part the fault of the contributor who fails to probe into the facts before he gives. When every contributor will cooperate and limit his contributions to those agencies which can prove business-like management, there will be less waste and an increased stimulus toward maintaining the work on a high scale of efficiency. Organized social work must take the lead in influencing the contributing public to give only to adequately accredited purposes and organizations."

THE FAMILY DOCTOR

In view of the frequent and constantly repeated plaints about the alleged passing of the family doctor, we are particularly interested

in a remark to be found in a review of "The Doctor", by Elizabeth Porter Wyckoff (*Woman's Home Companion*, September, reviewed in *Hygeia*, October, p. 469) which closes with these words:

"The family doctor is not passing. His professional resources have been greatly enhanced by the advances of modern medicine, and the aids which he can command from specialists. But he, himself, is still the dependable, sympathetic, and trusted reliance of those who are in pain and distress from ever-present illness."

PRIZE ESSAY CONTEST
Of the American Chemical Society

Francis G. Blair, State Superintendent of Education, has been officially notified of the opening of the Prize Essay Contest of the American Chemical Society in which all students of high and secondary schools in the State of Illinois have been invited to compete in a national contest for $10,000 in cash prizes and scholarships to Yale, Vassar and other universities and colleges.

The contest, which is the result of the gift of Mr. and Mrs. Francis P. Garvan of New York, is a memorial to their daughter, Patricia, and is intended to stimulate interest among high school students in the development of chemical science in this country. All arrangements for the contest are in the hands of the Committee on Prize Essays of the American Chemical Society, with headquarters at the Munson Building, New York City. Six prizes of $20 in gold are to be awarded in each State in the Union and scholarships to Yale and Vassar will be given for the six best essays in the United States. These scholarships will carry with them tuition for four years in chemistry or chemical engineering and $500 a year in cash. In addition to these awards, many other scholarships will be offered through various universities and colleges.

A set of five books, which include "Creative Chemistry", by Slosson, "The Riddle of the Rhine", by Lefebure, "The Life of Pasteur", by Vallery-Radot, "Discovery, The Spirit and Service of Science", by Gregory, and the "Future Independence and Progress of American Medicine in the Age of Chemistry", by a Committee of the American Chemical Society, is being sent from the New York headquarters to every accredited high and secondary school in the country, and sets of these reference books are being placed in the leading libraries of the State for the use of students who enter the competition.

The contest, which has the endorsement of Dr. John J. Tigert, Commissioner of Education of the United States, is fully described in a pamphlet which will be distributed through the highschools and the libraries. This pam-

WIN A SCHOLARSHIP
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AMERICAN CHEMICAL SOCIETY PRIZE ESSAY CONTEST
Open to students in all secondary and high schools
Prizes will be awarded in each State. A First Prize of $20 in Gold will be given for the Best Essay on each of the following topics. A Certificate of Honorable Mention will be awarded the Second Best Essay on each subject.
State prize winners will be entered in a National Competition for the Scholarships to Yale University or Vassar College. Each Scholarship carries $500 a year in cash and tuition fees for a four year course in Chemistry or Chemical Engineering.
Essays to be completed before April , 192
For information apply to School Principals or
Committee on Prize Essays
AMERICAN CHEMICAL SOCIETY
Munson Building New York City

phlet contains, in addition to facsimile letters of endorsement from Dr. Tigert, and from Dr. E. C. Franklin, President of the American Chemical Society, a full outline of the terms and conditions of the contest together with the letter of gift of Mr. Garvan. The entire supervision of the contest and the award of the prizes has been left to the American Chemical Society by Mr. Garvan. H. E. Howe, Editor of *Industrial and Engineering Chemistry*, the official organ of the American Chemical Society, has been named as Chairman of the Committee, and he is assisted by Dr. Wilder D. Bancroft, Professor of Chemistry at Cornell University, one of the best known men in educational circles in this country and President of the American Chemical Society in 1910; by Dr. Charles H. Herty, President of the Synthetic Organic Manufacturers' Association and President of the American Chemical Society in 1915 and 1916; and by Alexander Williams, Jr., of New York, who is acting as Secretary of the Committee.

It is the plan of the Committee in charge to appoint a national Committee of fifteen who will be chosen from all walks of life; from

among the leading educators, scientists and public spirited men and women of the country. It will be the duty of this Committee to judge the essays and to award the scholarships in the national competition. They will be assisted in their work by State Committees of eleven whose duty will be to award the prizes in the State competitions.

"The trouble with the people who go around talking about psychanalysis," said the Detroit Saturday Night," "is that, if they'd only use the psychanalysis they talk about to find out why they went around talking about psychanalysis, they wouldn't go around talking about psychanalysis."—Hygeia.

TEST FOR CREDIT

A friend of mine who used to sell talking machines by mail-order hit on a simple method for judging out which persons he might trust, writes Fred Kelly in the *Nation's Business.*

On receiving an answer to his advertisements, he wrote to the inquirer asking for the name of his family physician, as reference. If this name was forthcoming, my friend then shipped the talking machine without further ado. He never even bothered to write to the family physician. His reasoning was this: People always pay the doctor last. If a man will give his doctor's name as reference in a mail-order transaction, he surely doesn't owe the doctor any money. And if he doesn't owe the doctor, he probably doesn't owe anybody. Hence, presumably, he is a fair risk for a talking machine or other goods on credit. [Clipped from a newspaper.]

—

[I call that pretty good and a strong evidence of shrewd reasoning.—Ed.]

LIME STARVATION AND THE PARATHYROIDS

In his interesting article appearing in another department of this issue of Clinical Medicine (p. 876), Doctor Harrower refers to the fact that, in tuberculosis, there occurs a progressive loss of calcium, one of the important mineral constituents of the body, and that this loss takes place in spite of persistent and deliberate medication with calcium salts. This is a part of the "demineralization" of the body which has been accused by French clinicians, Robin, for instance, as a potent predisposing factor in tuberculosis but which, more likely, is one of the characteristics of established (if early) tuberculous disease.

Doctor Harrower declares that the loss of calcium is due to an insufficient functioning of the parathyroids, since it is these two glandules that govern the calcium metabolism. It follows that a strengthening of the parathyroid function may be expected to arrest the injurious loss of calcium and to aid materially in the restoration of health.

The importance of "lime starvation", in tuberculosis particularly, has been insisted upon for years by John F. Russell, of New York, who based upon it a treatment which he found successful in a great many dispensary cases.[1] French clinicians insist on the same therapy, as was carried out, among others, by Charles Sabourin.[2] Doctor Sidler[3], a pupil of Professor Ferrier, outlines the same idea and shows how "demineralization" or, better, lime starvation, can be overcome by the ingestion of suitable mineral spring waters. According to Fishberg[4] several authors maintain that "an excessive excretion of calcium in the urine can be found in all cases of phthisis long before the onset of the disease. In this country, Croftan, John F. Russell, and, more recently, John O. Halverson, Henry K. Mohler and Olaf Bergeim have made some studies along these lines. The last-named investigators have found that the calcium content of the blood of patients with advancing and convalescing tuberculosis revealed that, in incipient cases in which the patients, who were on a high milk diet, showed marked improvement, the values for calcium in the serum were normal and fairly constant. In advanced cases, the variations obtained were greater (some rather high and some rather low values being obtained), and improving patients showed on the average slightly higher values than the unimproved. No marked deviations from the normal, however, were observed in the calcium content of the serum of patients in various stages of pulmonary tuberculosis. It is the opinion of these investigators that the failure of the body to deposit lime around the tuberculous areas is to be ascribed, not to a deficiency in blood calcium, but rather to an inability of the cells of the tuberculous area to utilize available calcium.

"Several French *savants*, notably Robin, Binet, etc., have found that in the pretuberculous stage there is a pronounced excess in the excretion of inorganic salts in the urine, notably those of lime and magnesia. The result is that the blood, bones, and lung tissue show a distinct lack in these mineral salts. Gaube found that the descendants of phthisical subjects excrete on the average more calcium

[1]For instance: John F. Russell, *Medical Record*, Nov. 27, 1909; July 1, 1911; Mar. 22, 1913, and elsewhere.

[2]Sabourin: "Rational Treatment of Pulmonary Tuberculosis", Philadelphia, F. A. Davis Co. 1921.

[3]Sidler: De la Récalcification et de son Importance dans le traitement de la Tuberculose. Paris: Librairie des Publications Périodiques.

[4]Fishberg: "Pulmonary Tuberculosis". Third Edition. Philadelphia: Lea & Febiger. 1922.

and magnesia than those of healthy stock. Robin sees in this lime and magnesia starvation an excessive amount of self-combustion, and he considers this anomaly in the metabolism the main element in the preparation of the soil prone to tuberculosis, whatever the remote cause may be—heredity, alcoholism, malnutrition, overwork, etc. Infection alone is insufficient to produce phthisis, as is evident from the fact that most people infected with tubercle bacilli escape the disease. It is only when the soil is prepared by the dissimilation and emaciation, by pretuberculous decay, as Robin calls it, that phthisis may develop. The gravity of the pulmonary lesion goes hand-in-hand with the degree of lime starvation, demineralization and emaciation of the body. According to these writers, phthisis is preventable. Demineralization of the body must be sought and, when discovered, prevented by the administration of remedies tending to replace the lime and magnesium which are being eliminated from the body excessively."

It should be mentioned that these and other findings regarding the metabolism in phthisis have not been confirmed generally. In fact, it has been claimed that, in the majority of consumptives, the metabolism is normal, providing that there be no high fever. It is possible, however, that a sufficiently extensive series of observations of the basal metabolism, would find it materially increased in those who may be designated as pretuberculous [which means actually, early tuberculosis] and the suggestion forces itself upon us that a more complete investigation of the subject, in which especially the parathyroid factor is taken into consideration, would tend to elucidate the matter. This seems the more probable, as it has been found that persons with normal or moderately-excessive thyroid function do not acquire tuberculosis, and it is to be kept in mind that studies of the thyroid have only recently separated the parathyroid factor, while, formerly, the results undoubtedly can not be taken as purely pertaining to these glands, since the entire organs were studied without excluding the parathyroids.

At any rate, it has been shown clearly[5] that the calcium metabolism is materially influenced by the parathyroid glandules and that their removal will result in a notable loss of calcium from the body.

Sajous[6] cites Loeper and Boveri to the effect that the exact transformation which calcium undergoes in the body and the exact way in which it is utilized are unknown. We know, however, that a human being needs 1.5 Gram of calcium per day, in the first six months of life, and from 0.9 to 1.1 Gram after the fifth year. According to a London letter to the *Medical Record* (Mar. 26, 1910), the effect of calcium salts on the blood is not so simple as some of our therapeutists have declared. Nor is the information contained even in the latest textbooks on physiology more satisfactory. It occurs to us that, possibly, a study of the results of ionic medication may aid in elucidating this and other obscure phenomena.

Speaking of calcium reminds us of an article contributed by Dr. Alfred Martin to CLINICAL MEDICINE for November. He claims that the rejuvenating effects of certain mineral springs, more especially the thermæ, are attributable to their contents in calcium and magnesium salts. Strangely enough, he declares that the springs containing calcium chloride (in Bad-Nauheim) are most effective for treating cardiac patients, especially those with arteriosclerosis. This is in distinct contrast to the clinical observation that the free ingestion of calcium salts in elderly people encourages arteriosclerosis.

However, Martin's clinical observations and the reports that he cites concerning certain experiences with milk cows suggest strongly that calcium salts exert a rejuvenating effect upon the organism.

Whatever may be the facts in the case, we confess to being tremendously intrigued by this whole chapter and we are wondering whether the immediate future will throw light on its many phases that are obscure. There is something irritating and humiliating in the obligation to work more or less in the dark. Yet, without "empiricism", progress is not possible. It will be necessary to proceed along the lines suggested by clinical observation and then to attempt to explain results by experimental studies.

Of quite preeminent importance will be the clinical and experimental investigations undertaken with a view to confirming (or refuting) the assertion made by Dr. Harrower that the parathyroids function as "calcium *mordants*"; that it is their duty to influence the calcium metabolism in such a manner that sufficient amounts of the available calcium introduced with foods or medicines are assimilated into the tissue fluids so as to prevent a loss of calcium leading to demineralization. Further, if such a loss has actually been suffered, the question arises whether it is possbile to stay it and to make it good again by the administration of parathyroid substance. While, according to some, the parathyroids are not

[5]Falta & Meyers: "Endocrine Diseases". Third Edition. Philadelphia, P. Blakiston's Son & Co. 1923.

[6]Sajous' Analytic Cyclopedia of Practical Medicine. Vol. 2. Philadelphia, F. A. Davis Company. 1918.

endocrine organs, and do not elaborate an internal secretion, they nevertheless exert a distinct function which is a necessary condition for complete health.

The Federal Government should only appropriate for those interests which are purely of national concern and clearly within the purposes for which the federal union was established.—Hon. Frank O. Lowden.

[So much for the bait of "Federal Aid."—Ed.]

THE NEW TUBERCULOSIS SEAL

The little Tuberculosis Christmas Seal has become familiar to millions of people throughout the United States, including hundreds of thousands of persons in Cook County. It has been largely responsible for the increase in health activities, which in turn have been the means of reducing the death rate from tuberculosis by 50 percent in the past 16 years.

Like bees, they are small, but do a tremendous amount of work, because so many of them work harmoniously together.

In Cook County, 22 public health nurses, assisted by doctors and other health workers administering 16 health centers, monthly chest clinics, weekly infant welfare clinics, school dental clinics and general school nursing, besides thousands of home visits and constant educational work, have been provided by these little seals.

During the month of December, millions of Christmas Seals will make their appearance in Chicago and Cook County. They will be sent to you through the mail and will be on sale in the department stores, drug stores, hotels and public buildings; they will be sold also in industrial plants and factories and in many schools of the county.

The great work which has been carried on in this way can not stop—every penny possible must be collected in order that the growing health program of The Chicago Tuberculosis Institute may be developed for the coming year.

PARATHYROID TETANY AND EPILEPSY

The observation that experiment animals, whose entire thyroid glands, including the parathyroid bodies, have been removed, die in tetanic convulsions and that this result will occur even if a portion of the thyroid itself has been retained, has led to the conclusion that the tetanic or epileptiform convulsions are due to the absence of the parathyroids which, it was concluded, exerted some influence in preventing such untoward accidents.

The particular nature of this function is twofold. Either it might be thought that the parathyroids contribute some substance (internal secretion) to the blood, which is necessary for life and in the absence of which the animal quickly dies with either symptoms of tetany or of severe depression; or, then, it might be possible that the parathyroid causes the removal of some toxic substance from the blood, the accumulation of which, after parathyroidectomy, produces the characteristic symptoms.

The first possibility has been disproved and it is now considered that the parathyroids are not organs with internal secretion. On the other hand, many if not all of the symptoms and other phenomena can be explained on the basis of an intoxication following parathyroid removal.

In following this line of reasoning, L. R. Dragstedt (*Jour. A. M. A.*, Nov. 4, 1922, p. 1593; *Amer. Jour. Physiol.*, Feb., 1923; and elsewhere) has found experimentally that the intoxication that is normally controlled by the parathyroids, but which takes place when these bodies have been removed, originates in the intestinal tract after the ingestion of a diet rich in protein of animal origin. Such a diet leads to the development of a bacterial flora almost exclusively proteolytic in character, and the consequent production of large amounts of toxic amins. On the other hand, a carbohydrate diet, more particularly one containing definite amounts of either lactose or dextrose, produces a change in bacterial types so that the intestinal flora becomes practically entirely fermentative or aciduric. Dragstedt concludes that parathyroid tetany or depres-

sion is due to an intoxication; that the toxic substances come chiefly from the gastrointestinal tract and are probably for the most part protein-split products of the nature of amins.

The function of the parathyroid glands, therefore, is, to prevent intoxication by these poisons, and not, to furnish a hormone necessary for life—according to Dragstedt.

After removal of the parathyroids, animals may be kept alive indefinitely, if the intestinal toxemia is prevented by suitable treatment. After about six weeks, the dietary control of animals may be replaced by usual stock diets without developing tetany or depression. From this it may be concluded that some other organ, probably the liver, has taken over the function of the missing tissue. It has been observed that, in parathyroidectomized animals, injury to the liver resulted in attacks of tetany exactly like that following parathyroidectomy. The animals remain in a state of sensitive balance and apparently small accidents, dietetic indiscretions, and so forth, may occasion violent epileptiform convulsions or coarse jerking movements. The occurrence of constipation may have the same effect. An exceedingly hot day, excessive exercise, excitement or the occurrence of an infection has caused such recovered animals to be severely ill.

All this seems to us to have an important bearing upon the clinical problems presented by epileptics. Certain other investigations of Doctor Dragstedt's and his associates have shown that the function of the parathyroid glands is in some way concerned in the occurrence or prevention of epileptic and epileptiform convulsions. Clinical observation shows that a diet rich in animal proteids, periods of more or less emphatic constipation, excitement, excessive strain, whether mental or physical, and other unusual occurrences are extremely likely to terminate in epileptic attacks, even though the patients may have been entirely free for weeks and months. We have ourselves observed this, time and again, in several patients who are under observation, and have invariably been able to connect the attacks with one or several of the factors enumerated. It appears to us, in these patients, the function of the parathyroids is not carried out sufficiently, and for that reason we are feeding them parathyroid substance. As far as we can judge, the results, so far, are all that could be expected and we hope to have found an additional means for keeping epileptics in a fair balance, in addition to suitable feeding and the insistence upon a simple, uneventful mode of living.

A golfer is a man who wears knee pants and seldom works after 2 p. m. in the summer.—Hygeia.

GLAND TRANSPLANTATION

It is unfortunate that the method of gland transplantation, inaugurated by Lydston and developed by Voronoff and others, has been made the subject of such cheap and ribald jokes, not only by reporters to the daily press and the laity in general but also by medical writers. The purpose and the importance of the various procedures aiming to bring about a rejuvenation are of far greater bearing in other directions than in that of virility and potency. This appears clearly in the reports contained in Doctor Hunt's article (p. 862) in which a greater mental and intellectual vigor is emphasized by those on whom he had done the operation. The same thing is described startlingly in Gertrude Atherton's "Black Oxen", where the sexual factor of the "Steinach" rejuvenation is entirely subordinated to the increased mental and intellectual alertness and power.

It strikes us that it would be the part of wisdom, at least for physicians, to refrain from cheap and doubtful jokes and to treat the subject with the seriousness and the honesty that it merits. Surely, if it is possible (as it appears to be from fairly numerous clinical reports) to postpone the deterioration of the mental powers, if it is feasible to prolong the ability to work intellectually by a number of years, the game is truly worth the candle and the means that are employed must be recognized as scientific and proper. It is significant that Voronoff was invited to demonstate his method before the Thirty-Second Congress of French Surgeons, last October. Quite evidently, the first somewhat startling reaction to the idea is giving place to a more proper and reasonable appreciation of its possibilities.

"THE GENERAL PRACTITIONER"

We have, for long, been conscious of the fact that the department of obstetrics, which is so important a part of the general practitioner's work, and which is so essential for the welfare of the human species, has been somewhat neglected in our reading pages. For this reason, we have asked Doctor Rittenhouse, who has had a wide and varied experience in practical obstetrics as well as in

teaching, to devote at least a portion of his department each month to the discussion of obstetric problems.

We believe that our readers will approve of this move and that they will accept Doctor Rittenhouse's contributions on obstetrics with satisfaction.

Incidentally, the question of doing something in general medicine, corresponding to Doctor Blech's Surgical Seminar, has occupied us a good deal. We should like to have such a department in which the diagnosis and treatment of puzzling cases might be discussed by our readers under the guidance of a competent clinician. So far, we have not succeeded in making definite plans. Still, we should like to know how our subscribers would react to a "Medical Seminar" and whether they would be willing to participate in this department sufficiently to make it worth while.

He who would walk sanely amid the opposing perils in the path of life always needs a little optimism; he also needs a little pessimism.—Havelock Ellis.

THE LANCET CENTENARY

The issue of October 6, of *The Lancet* (London) is the centenary number, this important medical periodical having been founded in 1823.

Some years ago, while in charge of one of the larger private medical libraries in this country, we had at our disposal complete files of the London *Lancet,* as well as the various other important and old-established periodicals, among which *The American Journal of Medical Sciences* approaches the *Lancet* most closely, with the possible exception of the *Boston Medical and Surgical Journal.* Not only was it interesting to browse in those old volumes, but our investigations frequently obliged us to go back to them for the purpose of historical study.

Having made the acquaintance of the *Lancet* actually beginning with Volume One, we feel a sort of personal interest in its welfare and we offer our sincere and cordial good wishes for its continued and successful continuation in the splendid work that it has accomplished and is doing.

Vivat, crescat, floreat!

RENEW YOUR SUBSCRIPTION

With this issue of Clinical Medicine, another volume of the Journal is completed and preparations are made for Volume 31, which will commence with the January, 1924, issue. We have just paid our respects and offered our congratulations and good wishes to the London *Lancet,* the oldest medical journal in existence, and we are wondering whether, seventy years from now, The American Journal of Clinical Medicine will still carry on. Of course, we shall not be there to see it and, as far as that is concerned, we might be forgiven for expressing an attitude of "I should worry!" And, yet, nothing is further from our thoughts than that position. We certainly want Clinical Medicine to continue its mission of service to its subscribers; we want it to grow in quantity and in quality, as also in the number of its subscribers.

Conducting a medical journal can not be held to be so simple a matter as might appear. Certainly it is not a one man's job. The editor may prepare a lot of editorial articles; he may review books and write abstracts; he may comment upon correspondences submitted and upon opinions expressed in leading articles. Further than that, he can hardly go. For much of the reading matter, the journal depends upon its friends to submit articles, dealing with work that they have done, with researches with which they are interested, with things they hope to accomplish.

Then, also, the journal depends for its continued existence upon two sources of revenue, the importance of which is closely interlocked. We believe that everybody understands that the subscription price of any periodical is not nearly sufficient to pay for the expense of getting out the journal. The actual money that talks, the essential revenue, is derived from the advertisers. However, the value of a journal as an advertising medium and the fees that can be charged for advertisements depend upon the number of subscribers whom the periodical serves. Consequently, the more paid-up subscribers the journal possesses, the better it can serve them, not only in the matter of original contributions but also in the direction, no less vital, of advertisements. For, it stands to reason that the advertising pages form a buyer's guide to which the subscribers turn with interest and which they utilize when they are in need of merchandise required by their particular work.

So, then, The American Journal of Clinical Medicine wants subscribers, many of them, just as it invites advertisers to utilize its pages. Clinical Medicine does not wish to force itself upon physicians; and those, whose subscriptions have run out or who do not wish to renew, will place us under obliga-

tion by informing us to that effect. On the other hand, if CLINICAL MEDICINE serves you, if you have found instruction, useful hints and entertainment in its pages, it is only fair to ask you to renew your subscription promptly, not to wait for a statement but to send in your three dollars for the year 1924; or, better, five dollars for the next two years.

The old Romans had a proverb which is still in current use, *"manus manum lavat"*—one hand washes the other. Here, as in all everyday affairs, relations are mutual. Our subscribers want our services. We are glad to give them, but we ask them to reciprocate in the matter of good will, in the form of contributions and in monetary consideration to the amount of three dollars, U. S. coinage, or its equivalent. Will you send us your check today? Thank you.

We ring the bells and we raise the strain,
We hang up garlands everywhere
And bid the tapers twinkle fair,
And feast and frolic—and then we go
Back to the same old lives again.
—Susan Coolidge.

"THE GOODSPEED NEW TESTAMENT"

Many attempts have been made in recent years to produce translations of the Scriptures that are exact and based on the most authoritative texts obtainable. Biblical scholars, unfortunately, are not always agreed as to the correctness of the texts and the laity appears to have a sentimental preference for the St. James version, the peculiar language of which seems to us to be particularly suitable as a vehicle for the sacred text. We are apt to forget that the St. James version is a translation, just as is that according to Luther (in German) or the text used in the Huguenot churches (in French), and so forth. Even the "Vulgata", which many of us like to consult for the elucidation of some obscure passages, is a translation, although a far older one than the St. James version.

For these reasons, there can be nothing unbecoming in the attempt to produce new translations, especially in view of the fact that Biblical study has discovered much that shows some of the passages in almost all existing translations to have been erroneously rendered. Furthermore, many there are to whom the stilted, old-fashioned language of the St. James version is a stumbling block, who are not subject to the sentimental associations but who would like to read the story of the Bible in modern every-day English. Such a thing is further justified because, as we are told, the original manuscripts of the New Testament books were written, not in classical Greek, but in the language of the common people, of *hoi polloi*.

The Reviewer was so greatly interested in the version of the New Testament prepared by Professor Goodspeed, who is one of the foremost New Testament scholars in this country and one of the most accomplished teachers of Greek, that, having read the passages reproduced in the prospectus issued by the University of Chicago Press, he promptly bought a book and is reading it with much enjoyment.

Professor Goodspeed's translation of the New Testament will appeal to many. We believe that, among our colleagues, more than one will thank us for calling his attention to it and that it will be appreciated throughout the English-speaking world by those who are not bound by form but desire to have as exact a reproduction of the original as can be obtained.

The New Testament. An American Translation. By Edgar J. Goodspeed, Chicago: The University of Chicago Press. 1923. Price $3.00, postpaid $3.12.

FAMINE DISEASES

The description given by Doctor Martin (p. 873) of his experiences and observations of what may be designated as famine deficiency diseases, because of the starvation diet that had to be resorted to during the War, is novel and unusual in so far as the occurrence of polyuria followed by edema, both being induced by a miserably inefficient diet in famine times, has hitherto not been recorded. We are familiar with typhus (spotted fever) and dysentery, both of which have frequently been observed during all wars and have been described graphically, for instance, by August Hirsch ("Geographical and Historical Pathology", London, New Sydenham Society, 1883). In 1848, a period of famine in Silesia, but without war, was accompanied by a widespread epidemic of the socalled famine typhus, concerning which Virchow reported to the Prussian Diet. During the war between the States, a particularly violent form of dysentery occurred very frequently and left its traces in its unfortunate victims to such an extent that we find reminders of it in the veterans of that war to this day.

In all these reports, however, the appearance of polyuria followed by the edema is not mentioned. And we are inclined to accept

Doctor Martin's opinion, when he attributes the occurrence of the vasomotor disturbances responsible for both, the polyuria and the edema, to the starvation diet which consisted for weeks and months exclusively of turnips. If it had been possible to resort to beets or carrots and to potatoes, there would, undoubtedly, have been a serious deficiency in nutrition, but, at any rate, the more generous nutrient qualities of these vegetables might have prevented such serious disturbances as those described by Doctor Martin. Even today, there are large districts in which the people are not much better off than in wartime. Truly, the War has cost the German people dear and they are by no means through paying for it.

CALCIUM SULPHIDE

To physicians who have employed calcium sulphide clinically, the reminiscences in the article contributed by Doctor Lawrence (p. 880) are of interest. The claims that have been made for this drug have been denied by numerous therapeutists, and Bartholow, for instance, was very careful to avoid making direct statements concerning the usefulness of the drug. So he says: "A succession of common boils, scrofulous and other abscesses, are, *it is said*, made to mature, and the expulsion of the pus is favored by the use of the sulphides. When abscesses are threatened, and before matter is formed, the sulphides, *it is claimed*, may cause them to abort. Small doses (gr. ss to gr. j) frequently repeated (every hour or two) *are said to be* most effective under these circumstances."

Others are more definite. Many readers of Clinical Medicine will remember the reports presented by W. C. Goodwin (this Journal, 1911, p. 55, and 1917, p. 361) concerning the excellent and lasting action of calcium sulphide in tuberculosis. Ussher's experiences in the exanthemas, including smallpox, must be accepted as conclusive. French authors have praised the drug highly in the treatment of diphtheria, whooping cough, typhoid fever, erysipelas and other affections. According to Shoemaker, calcium sulphide is given with good effect in ophthalmia and sores of scrofulous children. In measles and scarlatina, it apparently abridges the course of the fever. In pertussis, it reduced the number and severity of paroxysms. Shoemaker also finds the drug useful on styes, acne and furuncles. Wilcox finds it of use in the prevention and treatment of boils, carbuncles, abscesses, and says that it has been employed with advantage in acne, eczema, chronic conjunctivitis and ulcers in ill-nourished children, of suppuration of tuberculous glands and acute tonsillitis, especially in strumous patients.

Aside from the demonstrated utility of calcium sulphide in numerous cases of infectious diseases, its efficacy as an antidote for mercuric chloride poisoning has been observed and proved by J. H. Wilms and by T. A. Carter.

We do not remember ever having seen or read of a satisfactory explanation of the antibacterial or antitoxic action of calcium sulphide. It has been suggested, jokingly, that no self-respecting germ would remain in the blood current saturated with this ill-smelling preparation. Still, sulphuretted hydrogen has distinct disinfecting properties and we believe that it is rational to explain the modus operandi of calcium sulphide on the basis of this action of H_2S. However, that may be, calcium sulphide is an extremely valuable remedy and one that may ward off many serious attacks of bacterial infection and profound intoxication.

PHYSICIAN BOOTLEGGERS

Doctor Keating (p. 859) refers to the report of the prohibition situation for 1922, reproducing from it the statement that, in that year, physicians were responsible for the sale of seven million dollars' worth of whisky. With the exception of those physicians who believe that, at times, whisky is a valuable remedy and who should not be criticized and interfered with on that score, the writing of whisky prescriptions by physicians, Doctor Keating says, is the greatest disgrace that has ever befallen the medical profession.

Quite recent newspaper reports declare that, in the twelve months ending last June, no fewer than 11,268,469 "liquor" prescriptions were duly signed by practicing physicians and filed by druggists in twenty-seven states and, Porto Rico, Hawaii and the District of Columbia. New York led all the states in the number of booze prescriptions filled (the newspaper in question states), Illinois being second and California third. The paper continues: "Meantime, the home-brew artist and the bootlegger were contributing their share toward the alleviation of whatever maladies booze is supposed to alleviate. It is significant that two-thirds of the physicians of the country do not find in their practice any of those mysterious maladies and so do not pre-

[*Concluded on page 883*]

Leading Articles

The Daily Hospital Clinic for Private Patients

By EMMET KEATING, Chicago, Illinois

A LONG-STANDING belief in the value, to physicians and their patients, of a clinic in every hospital, for pay as well as for charity patients, prompted me to urge such a measure to the staff of the Norwegian-American Hospital, in 1920. A clinic where no physician in good standing would be barred from presenting his patients, but would be urged to do so. That clinic was established and is a success. It is held daily from 11:00 a. m. to 12:00 o'clock, noon. There is nothing compulsory about the attendance, which ranges from a half dozen physicians to thirty or more. It was established as a necessity for the improvement of physicians in the type of service they are able to render their patients; for specialists as well as for general practitioners.

For years, the general practitioner, in the papers and discussions of medical and surgical gatherings, has been accused, berated and implored. He has not raised a voice either in agreement or protest. Why? He has never had an opportunity. He has not been considered worthy of a place on any of the programs. The specialists have monopolized the field. They are organized and have something definite to say. The general practitioners are not organized and, if they have anything definite to say, they are too modest and retiring to say it.

Standardization a Fetish If Carried Too Far

Another necessity is now in evidence. A necessity which will shortly be so compelling that the clinic will be a feature of every hospital; a feature as commonplace as a sterilizer for the operating rooms. The pendulum of standardization may be swinging too far; but, as I see it, it is the result of a desire on the part of men of high ideals to force the general practitioner to raise his standards.

The preserving of a certain amount of records pertaining to the daily activities of any hospital is quite right and proper, but, the extent to which it is being carried in some hospitals, which are trying to meet not high ideals but insane ideals, is appalling. It is a useless tax on human energy and demands a storage space that could be devoted to a better use.

Those physicians, who are more or less constantly engaged in teaching, are forced to keep themselves more nearly in touch with the progress and changes in the art and practice of medicine than is the physician who goes his lonely way without let or hindrance from the prompting or restraining influence of close associates.

It is certain that, whatever division of the practice of medicine he is presenting to graduate or undergraduate students, such work will increase his ability as a physician.

His duties make it necessary for him to be diligent in his study of what time and experience have standardized, and alert to the newer things in diagnosis and treatment, which may or may not survive the test of time.

The presentation of a patient, the argument for the establishment of a diagnosis, the discussion of the pathology, the review of the symptoms, the prognosis, the treatment and the sequelæ of the disease from which the patient suffers, require the practicing physician to do exactly the same thing as the professors in the medical school. That is, he must carefully reread what has been painstakingly set forth in logical order in the standard textbooks. He has the same privilege of supplementing this knowledge with whatever new or revised opinions are to be found in current medical literature.

If any physician sitting in the seat of the scornful says that this is a fine Utopian but impractical idea, impossible of performance, because the busy general practitioner has no time to indulge in a study of this kind, he is admitting that the general practitioner makes no pretense to give his patients the service

*Read before the American Medical Editors' Association, meeting in Chicago, Oct. 25 and 26, 1923.

that they rightly expect him to be able to render.

Constant Study Requisite

After our initial endeavors in the practice of medicine, there is an alarming tendency to turn our backs completely upon the textbooks which were so energetically studied during our student career, and depend for our progress upon the various medical periodicals, whose articles, of course, take it for granted that our knowledge of what has so long been established is fresh and green.

Unfortunately, unless constantly reviewed, the most profound comprehension of any subject becomes faint and is sooner or later lost from our store of knowledge.

Objections to Textbooks "As Is"

As medical editors, it might be interesting for you to hear that many of us question the advisability of the present fashion in textbooks of a large number of cumbersome volumes which contain so much of repetition and padding, and in many cases statements given as facts which are not borne out by actual practice. This shortcoming is partly due to the fact that these volumes are made up of the contributions of men who have specialized in their particular fields, some of them never having had that broad general experience which militates against the danger of narrow views.

As an illustration, I would cite that, in one of our most recent and highly lauded textbooks on medicine, the contagiousness of pneumonia is overemphasized, the writer basing his conclusions upon the great incidence of pneumonia in the army camps of the World War. A year ago, at a meeting of the Physicians' Fellowship Club, this belief was questioned, and some twenty men, whose practice extended over a period of from fifteen to thirty years, were unable to support the author's position. Two or three of those who took part in the discussion recalled that, in one or two instances, pneumonia had attacked a second person in the same family. They were not, however, willing to admit that it was the result of a transmitted infection. Health departments have made pneumonia a reportable disease; have established strict quarantine regulations which work unnecessary financial hardship in cases where hospital patients, occupying wards or semiprivate rooms and who, during their stay, contract pneumonia, are compelled to go into private rooms under the care of a special nurse or trust their lives to municipal hospitalization.

Teaching Helps Doctor to Study

If it were possible for all physicians to be teachers for six to nine months of each year, the public would be better served; but this is not possible. Positions in medical schools are limited. The only opportunity the general practitioner has of availing himself of a simliar opportunity is in the daily hospital clinic. It is not meant that he shall appear with the regularity of the teacher in the medical school, but the daily clinic will give each physician the opportunity to present at least one case per month.

Few men have the initiative to continue their studies when they are not expected to display their wares before their fellows.

Indolence follows hard upon forgetfulness, and the ability to ferret out evidence of departure from the normal, instead of gaining strength from experience and observation, disappears, and the practice of medicine becomes merely the treatment of the patient's voiced complaints.

The old fashioned family doctor dies hard. Instead of preserving and improving upon his many virtues, his limitations and shortcomings are treasured by his successors, and carping criticism and levity are aimed at those who take and preserve painstaking histories and avail themselves of the many mechanical diagnostic aids that are the everyday working tools of the specialists.

Quantity production and low selling price bring financial reward to the manufacturer and great benefits to the purchasers of automobiles, but this principle, which has brought fame and fortune to one man, and happiness and prosperity to many more, can not be applied to the practice of medicine, if patients are to obtain the service to which they are entitled.

The Problem of the "Chronics"

Not many years ago, physicians were so busy treating typhoid fever and other controllable diseases that they had little time or energy to devote to those patients who were not acutely ill. Their attitude towards the ambulatory patient did not stop at indifference, but was one of abhorrence and contempt for the unfortunate people who were known as chronics. If the doctor saw one of them approaching his office, he would hurriedly leave by way of the back door, to evade listening to what he looked upon as dreary and useless complaining.

Now, the doctor is complaining because, preventive medicine and ill-advised charity having deprived him of a large number of those suffering from acute diseases, he finds himself without a practice.

The people whom he ignored and to whom he gave no hope are, as a last resort, visiting the chiropractor, the osteopath, the Christian Scientist. The majority of these people are really ill. It is worth our while, and they are willing to pay for the time it takes to find out what is the matter with them. These are the patients who demand the most careful study and a training in diagnosis on the part of the physician that is not to be secured in his work of treating acute diseases.

In the care of acute diseases, in the majority of cases, the diagnosis is easily made and the main efforts and thoughts of the physician are towards the proper treatment. Once he has determined what to him seems best, it becomes a matter of routine which does not further tax his mental resources. The greatest strain demanded is the physical one of making house calls. It is the easiest type of practice and is inclined to reduce the general efficiency of the physician who has much of it to do.

The activity and energy displayed by the medical profession in the advancement of preventive medicine has, to a very large extent, curtailed the ravages of the acute infections.

As a source of income, the care of acute diseases is fast vanishing. The greatest prevalence is among the least enlightened and the least able to pay. In twenty years' practice in the city of Chicago, I have not seen a dozen cases of typhoid fever.

The Spectre of State Medicine

Every right minded physician rejoices that ways and means have been found to so wonderfully reduce the prevalence of acute diseases, but he deeply resents the increasing tendency of public health departments to engage in the practice of medicine. Too much police power for health departments means state medicine and paternalism. Large appropriations from municipalities give them greater political power and increase burdensome taxation. He resents the activities of charitable agencies, that, in order to keep themselves going, encourage pauperism and secure free medical attention for people who are able to pay. He resents the cupidity of those physicians who do the work for such agencies and violate the ages-long principle that the laborer is worthy of his hire.

There has always been a widespread public opinion that doctors enjoy large incomes. The doctors know better.

Whisky Prescriptions

A few days ago, there appeared in the newspapers, as part of the report of the prohibition situation for 1922, the statement that, in Illinois alone, physicians were responsible for the sale of seven million dollars worth of whisky. There are a few physicians who believe that whisky is at times a valuable remedy. No criticism can be aimed at them for using it when they think that it is for the patient's good. With these exceptions, the writing of whisky prescriptions by physicians is the greatest disgrace that has ever befallen the medical profession. Is it necessary for any physician who has spent the time, money and effort to acquire a fine medical education to become a bartender for a blind pig? No. If the old sources of income have disappeared, let us bear in mind that an increasing number of intelligent people are no longer content to go limping through life bearing ills that may, with the advice and counsel of capable physicians, in many cases be permanently cured, and, where a permanent cure is impossible, such counsel and advice will greatly lessen their distress and permit them to continue their share to the world's work.

Preventive Medicine

How times have changed. Think of the multitude of agencies that are devoting their sole attention to the conservation of health. It is a sad commentary that a very large number of physicians have not, as yet, realized that the human machine is in constant need of supervision and repair. Neither have they realized that the understanding necessary to such intelligent care means a greater expenditure of time for the individual patient and the use of the laboratory This means that the patients must pay more than they have ever done for the inefficient service that was formerly rendered. Many general practitioners, with the false notion that only a few people can afford this service, go on in the same old way, scratching the surface and missing the opportunity to restore the patient to health.

In this day of high wages and high cost of living, the individual who cannot work soon becomes a burden upon the community. Restore his health, and he will soon be able, not only to take care of himself, but to pay the physician a just and fair amount. Until more general practitioners understand this, the education of the public will be long delayed. To the public, a doctor is a doctor, and the one who works cheap and does little appeals to them as being just as good as the physician who gives them real service.

Importance of the Teaching Clinic

The clinic in every hospital is the one great teaching force that will raise the standard

of every doctor. He will learn that, while he cannot neglect the many things his five senses will be able to tell him, he must back up this information with scientific diagnostic aids.

How shall such a clinic be conducted? Briefly, the matter should be brought before the staff, and they should be made to understand that, unless they are willing to do their part, both as audience and teacher, it cannot be made a success. The staff should elect as Director of the Clinic a man who is capable of arranging programs; who has the persuasive power to get his fellows to present cases, and who is willing to sacrifice his own time for the good of the cause. The success of the clinic, among other things, will necessitate his unfailing attendance during the clinic hour. If it is to be a success he will not be able to absent himself many times. While the main burden of the presentation of subjects and patients should be placed upon the attending and consulting staff, the Director should secure at different times men of prominence who, from their long and continuous service as teachers in medical schools, are able more brilliantly to set forth the subject to be taught, than is the general practitioner. From these men, the amateurs in teaching will not only learn valuble things in medicine and surgery, but their own teaching ability will be greatly enhanced.

It is the custom at the Norwegian-American Clinic, when the physician has completed his presentation, for the Director of the Clinic to specifically ask each man in the audience to express his views upon the subject. Long speeches are discountenanced. Whatever he has to say must be short and to the point. By this method, distasteful and useless controversies are avoided, and no one is slighted.

In addition to the benefits to the public and the physician, the Daily Hospital Clinic for private patients will banish the old-time belief that only charity cases can be utilized for teaching purposes.

Clinics of this kind will not need the fostering care of state or national organizations to keep them going. Each one will be a complete unit in itself and will give an equal opportunity to each and every physician in that particular community.

2757 Fullerton Ave.

Further Experiences in Gland Transplantation

By H. LYONS HUNT, New York City

SOCIOLOGICALLY, man is a creature of habit and of environment. Physiologically, he may be called the product of his glands of internal secretion.

Long before Brown-Séquard, and long before anything was even dreamed of endocrinology, the Chinese, Roman, and Arabian physicians, in fact, physicians of all times and climes recommended the injections of testicles from various animals as a remedy for sexual impotence.

It was in 1849 that Berthold carried out the pioneer experiment of removing the testes of four roosters and transplanting them under the skin. It was Berthold's idea to test whether a gland with a definite external secretion, but which had powers over the whole body, could not be shown, by a clean-cut experiment, to possess an internal secretion.

Berthold succeeded. Without precise scientific knowledge, he was the first to prove the existence and significance of what we now recognize as an internal secretion.

Forty years passed before the implication of Berthold's studies were rediscovered by Charles Edward Brown-Séquard. (1817-1894.)

Brown-Séquard is to be regarded as the principal founder of the doctrine of internal secretions. In 1869, he first expressed the idea that all glands, whether with or without ducts, supplied to the blood a substance the deficiency of which produced pathologic disturbances.

In 1889, Brown-Séquard, at the age of seventy-two, announced the rejuvenating effects of self-experimentation with the injection of testicular extract from lambs. According to his startling reports, he experienced a marked improvement in mental activity, physical strength, bowel action, and increased appetite. The effects were reported to the Society of Biology of Paris, on June 1, 1889. The testicular juices from lambs, dogs and other lower animals, hypodermically injected into men, Brown-Séquard stated, had "a definite dynamogenic action upon the patient, stimulating his general health, muscular power, and mental activity".

The Brown-Séquard experiment is to be

*Read at the American Medical Editors' Association meeting, Chicago, Oct. 25-26, 1923.

recognized as the pioneer work in organotherapy. His principle was correct but, as Paul Kammerer notes, he was on the wrong track, in so far as the effects of the injections cannot be lasting and signify strictly no fundamental renovation of the organism, but at most an improvement.

Modern Research

G. Frank Lydston, of Chicago, (Op. C. T.), was the first to perform gland transplantation on human beings. The medical profession took notice of Lydston's work only when the newspapers of the whole world began to give sensational reports, and they joined in the more or less witty jokes about the matter.

Victor G. Vecki declares that, notwithstanding dogmatic contradictions and ridicule, the effects of properly and successfully performed transplantations are unmistakable.

Stanley had the ingenious idea of simplifying the operation of transplantation and devised a method of injecting the ram's semisolid testicular substance subcutaneously, with an appropriate syringe armed with a large-caliber needle. This procedure is easily done and painless. Vecki has repeatedly seen good effects upon the sexual power, notably in a few cases where suggestion could be absolutely excluded.

The opinions in regard to the Steinach operation differ. Some operators are enthusiastic; some, doubtful; and some treat it with contempt.

Steinach proceeds from the theory that the sex gland increases in activity when the vas deferens is ligated. With advancing age, the sex gland gradually loses its internal secretion, and its diminished function is restored by the ligation of the vas deferens. The senile sex gland may be stimulated by other methods, for instance, by chemical means and x-ray treatment. But, in Steinach's opinion, the surgical method is the easiest and most dependable.

Steinach's claims, though strongly endorsed by Benjamin, are flatly contradicted by such investigators as H. Stieve, Karl Sternberg, Prof. M. Zeissl and many others.

B. Romeis, discussing the rejuvenation hypothesis of Steinach, says that he compared the histological picture of the testicles before and after ligation of the vas deferens; but no increase in the interstitial cells was found, and the sexual desire was not increased.

W. Haubenreisser analyzes the results to date, of transplantation, Röntgen irradiation of the testicles, and the two Steinach methods of ligating the vas deferens. Not the slightest influence from the irradiation could be detected, and only one of the patients showed improvement. This was after transplantation of the testicular tissue; which, in the author's opinion, is the only method which offers results.

While not agreeing with the therapeutic technic of Steinach, the application of which seems too much like whipping a tired horse, one must be prejudiced, indeed, to withhold the honors of genius which are rightfully his for his demonstrative work in animal gland transplantation and sex transformation.

The Purpose of Transplantation

In reviewing both, the present literature as well as the history of gland transplantation, one is astounded to note how very indefinite and ill-defined has been the road of inquiry of those who have advocated this form of surgical therapeusis. Little effort seems to have been made to solve the problems which present themselves and which must determine:

1—The kind of person requiring a gland,
2—The kind of gland to transplant,
3—The endocrine deficiency of the patient,
4—The amount of gland tissue necessary,
5—The duration of life of the transplanted gland,
6—Grouping of the donor animal and the receiving human subject,
7—The cause of gland anaphylaxis,
8—The cause of gland non-take.

Relative to the kind of person requiring gland transplant, we have: The patient suffering from nervous, muscular or general debility, the eunuchoid, the pervert, women possessing infantile generative organs, women with ovarian dysmenorrhea, individuals who are senile or prematurely senile, cases of high blood pressure, functional impotence of the male, and frigidity and certain varieties of sterility in the female. All these are preeminently cases for surgical gland therapeusis.

Recently, I had a letter from the resident physician in Aix-Les-Bains, requesting knowledge of my transplantation technic, because, in his experience in administering gland extracts to rheumatics, he had concluded that benefit would be derived in a greater degree by gland transplantation. In this connection, I may say that not only rheumatism but neuritis yields to this operative procedure in 80 percent of the cases.

In regard to the kind of gland to transplant, my experience has been chiefly with the sheep's ovaries and ram's testicles. I have also used the cow's pregnant ovary and the young bull's testicle. I have, however, found the ram and

sheep to be more suitable.

In certain cases of non-take, I have felt that the rules of blood grouping between man and man should apply between man and animal. Since the beginning of the preparation of this article, my chemist has reported that he has originated a method to blood-group the animal donor and the human recipient of the gland. If such is the case, I feel that we are on a firmer footing as far as gland-take prognosis goes.

Our experiments with guinea-pigs point to the possibility of, at a future time, judging gland dosage accurately. In a group of guinea-pigs, we are transplanting testicular and ovarian gland tissue in graduating amounts, comparing the amounts of tissue transplanted to the weight of the animal. Dosage will be the relative amount that can be transplanted without any of the tissue undergoing necrosis.

Animal-gland animal experimentation is in its infancy. We are noting the effects and are endeavoring to transplant pancreatic gland tissue in dogs, in which we produce diabetes with phlorizin. We are also transplanting pituitary tissue, suprarenal gland tissue, thymus and thyroid glandular tissue, as well as tissue of the sex glands.

Another question that cannot be answered definitely has reference to the duration of the effects of gland transplants. The first gland transplantation that I performed was done three years ago. Several months ago, I wrote to the patient, who had originally applied for operation because of total impotence of seven years duration. I quote from his letter: "In regard to your inquiry, will state that I have no trouble to have an erection and normal sexual intercourse at any time I desire." We may conclude, therefore, that the effects of a gland can last at least three years. Whether the effect will continue longer, I have no way of knowing.

Personal Observations

Up to the present time, I have performed eighty-four gland transplantations. Of this number, only eight have failed to prove markedly successful. Two showed an anaphylactic reaction and six were non-takes.

I will not weary you with taking you over the histories and results of the eighty-four cases. I will, however, with a little more of your indulgence, read you excerpts of letters I have received from patients to demonstrate the results of gland transplants for the various therapeutic indications.

Case No. 1, a woman of thirty-nine years of age, who from the age of fourteen menstruated irregularly and with such pain that she was given chloroform, ether, and morphine at the menstrual periods. A gland was transplanted six months ago. I received the following letter three weeks after the transplantation: "Just a line to let you know that the menstruation came and went with no sign of pain. This appears more in the light of a miracle to one who has suffered the pains of child-birth each month for twenty-five years, etc., etc."

In regard to the effect of a gland in cases of actual senility, the following is from a lady in her seventy-first year:

"Almost every day since the first week after the operation, some new feature of rejuvenation of mind or body has presented itself as evidence that the gland transplantation was a success in my case. I truly feel that the stone has been rolled away from the grave of my youth and there has come forth a live and vigorous spirit which in activity and alertness is a pretty good counterfeit of myself before the 'passing out'. And, judging from the signs I have already noticed and from the comments of my friends, I am convinced that the evidence of the years is being contradicted at least in a measure by my general appearance as well as in my feeling of renewed vitality.

"It is difficult for me calmly to mention the different stages of improvement which I sense every day. I want to write a bookful of underscored, exclamatory ravings.

"Two days after the operation, I found myself walking along the street more energetically than usual. I soon found that I could go up stairs with less and less discomfort. From taking a car for half a dozen blocks, I now walk a mile or two, after being steadily on my feet for at least eleven hours with less than half an hour's rest at noon. Instead of spending most of my forty-five minute luncheon time in the recreation room at the department store where I work, I go out for fresh air and to revel in my new life. The sheep may miss its gland; but I'm sure that I am getting more benefit from it than the animal ever could.

"My memory is greatly improved. My deafness has entirely disappeared. My eyesight has also improved. I observe more keenly than I did. My eyes are not as dull as they used to be. My complexion is better and my digestion is perfect. My flesh is firmer and my circulation improved, etc., etc."

In sexual impotence, I may state that transplantation is successful in ninety percent of the cases. The following is one selected at random (as, in fact, all the letters I am reading have been) and is typical of the improvement noted:

"In reference to gland transplantation in my case, permit me to submit the following comment:

"At the age of forty-eight, my health in

general was good with the exception of absolute sexual impotency which had lasted for about two years. During this time, no erection had taken place at all. I made every effort to overcome this condition by careful living, plenty of out-door exercise, cold bath every morning, etc., etc., but there was no sign of improvement. During the three or four years just preceding this condition, I had suffered more or less from a lack of sexual vigor. I had become somewhat despondent and did not seem to take the proper interest in life or business.

"The gland transplantation took place about July 17th, 1923. About four days later, I noticed an erection upon awakening in the morning. Erections began to appear regularly for a while, then failed to appear for a short time. After this apparent reaction, they again took place regularly and continue to do so at the present time. I am again able to enjoy a moderate amount of sexual intercourse, and, while I have not the vigor of early manhood, I consider my condition at the present time very satisfactory for a man of my age.

"I may also add that I have experienced no ill effects at all."

I also quote from the diary of a New York clergyman. The diary was started after the operation, at my request:

"Thursday, June 28. Operation 4:30 P. M. —Non-painful, returned home in a taxi-cab; took to bed and used icebag for two days.

"Saturday, June 30.—Natural erection noticed in the morning at rising—the first in five years.

"Monday, July 2.—Awoke in the morning. Noticed a stronger erection than previously.

"Wednesday, July 4.—Morning erection with firmness and muscular strength. Penis thrilled with blood warmth and feeling of passion. A noticeable enlargement of the organ.

"Friday, July 6.—Morning erection. Privates flushed with blood life, and feeling of passion. Appetite increasing, sleeping natural, rest pleasant, vital strength returning.

"Monday, July 9.—Improvement of vision. Passion asserting itself. Erection on thought of sex. Privates warm and flushed feeling of circulation. Moving about and performing of usual duties with vim, strength, and volition.

"Saturday, July 14.—Wound healed. A general improvement physically and mentally. Condition of system, feelings and physical habits and actions of privates equal to fifteen years previous.

"I feel a general improvement in my whole system, and physical actions and responses of youthful periods and experiences have constantly manifested themselves. These were noticeable within five days after the operation and continue to be present. My vitality, nerve force, and mental action are wonderfully increased, and I feel that many years have been returned to me."

The following is from a married lady, forty-six years of age. Though married many years, she had never become pregnant and was quite desirous of becoming a mother. I transplanted a gland on June 14, and she became pregnant August 14.

"1.—The Menstrual Flow.—Appeared on the 17th. Lasted four days. Very heavy flow. It used to last two or three days with two days of moderate flow and the third day scanty.

"2.—For sexual intercourse, the desire was decreasing in the last five years, and passion was slow to arouse. Always had difficulty in having an orgasm and it would take at least twenty minutes to attain one. Now passion is easily aroused and an orgasm is had in five minutes.

"3.—I was always tired. I used to wake up in the morning tired and sleepy, with no vitality, and no strength. I had neuritis in my legs and, after walking a mile, I would have pains in my legs so that I could not sleep. Now I wake up before the alarm rings, feel rested and light and enjoy the morning. The neuritis is all gone and I do not feel tired any more. Though I am intensely active and on my feet all day, I feel strong, healthy, and full of vitality. For fifteen years, I have suffered from constipation. Since the operation, my bowels move naturally every day.

"4.—My disposition had changed immensely the last four or five years. I saw myself gradually growing more dull, irritable and critical every day. I seemed to have lost all vivacity and joy of living. Almost since the first day of the operation, I wake up happy in the morning feeling friendly disposed to the world. I feel like singing and dancing and life seems a joy.

"5.—As for looks, my eyes have lost their dull, faded look and are brighter. My face has lost its drawn appearance. My hands were getting old-looking, dry and wrinkled. Now, they look soft and all wrinkles have disappeared. Etc., etc."

That neuritis is improved as well as general debility, I quote from the first and last paragraphs of a letter too long to read through—patient aged fifty:

"My condition up to the time of operation was a serious one. I walked and felt like an old woman of eighty—no strength in the limbs, and it was all I could do to lift myself on to a street car. I was very weak and, when once seated, it was all I could do to get up on my feet again.

"The second week following operation, the condition of my kidneys began to show improvement, also the appetite. First, weary feeling upon getting up in the morning all gone. I had suffered intensely from neuritis night and day for weeks at a time, and often thought that I was going insane. That all passed away. All of a sudden, I realized that my body was getting straight and erect and my step was elastic as of old. Now I am myself again. I am forgetting what it is to be tired. It is now nearly three months, and I am vigorous, strong, and intensely interested in living. . . ."

The following two letters are from men

whom, I am sure, you all know well. One of these is a medical man who holds a chair at the New York Post Graduate Medical School, the other a medical editor, a member of this society:

"1.—Pulse rate dropped from eighty-three to sixty-three.

"2.—A very marked increase in my physical vigor.

"Before the transplantation, I tired easily and recovered slowly from bodily fatigue. This has practically all disappeared. I apparently can do as much as I could thirty years ago, and even if I do get tired, I rest for fifteen minutes and it puts me right again.

"3.—A marked increase in my mental activities. My mind seems now more active than it was at thirty-five years. It has much more to work on now as I have had much valuable experience in the past thirty years. I seem to be able to grasp and solve problems more readily than I could as a young man. It was the diminishing mental and physical vigor which impelled me to take the transplantation. I felt that I was getting to be an old man. The feeling has disappeared and I am always ready for mental or physical work.

"4.—Gradually increasing sexual power. While this was never entirely lost, I felt that it was gradually diminishing. It is just as surely gradually increasing since the transplantation.

"5.—I have been practically bald for many years. The hair is beginning to come in on the bald spot and of its natural color.

"6.—As a young man I used to enjoy cold baths, but for a number of years I have not been able to take these as I did not get the proper reaction. I have gone back to cold baths and get a fine reaction. . . . "

The following is the letter from the medical editor—a man I know you are all acquainted with:

"I am grateful for the beneficial results following your operation of gland transplantation. For many months prior to the operation, I was beginning to lose my usual vim and vitality. I did not have the energy to do my work and really did not care whether school kept or not. I was beginning to realize that a condition simulating physical and mental hebetude was slowly tightening its grasp upon me. Since the operation, I am feeling more like I used to in the days gone by.

"My circulation has improved, my complexion is again ruddy, and I am feeling physically fit again as I did ten years ago. . . . "

—

I have been particularly pleased to be able to bring to this society my results—not from the fact that it is one of America's greatest medical societies, and not from the fact that it is comprised of learned and polished minds, but because you, who compose the membership of this association, are individually and collectively responsible for the public health of the nation. For, it is the boldness of your pen that guides the thought of the entire medical profession.

Gland transplantation has been ridiculed, held up to censure. It has been made the food for salacious jokes, of caustic facetiousness, and of ludicrous contempt.

Those advocating operative gland procedure have been outrageously calumniated and have been called short and ugly names—names intolerable and mean. These defamatory invectives and bitter amplifications have usually emanated from men in our profession as destitute of sincerity as they are improvident of knowledge.

But, it is you who are all powerful, whose just opinion I value, and it is to you that I have brought my proof and my contention for your just comment that, if we are willing to accept as a truth that skin can be grafted and carry on its functions, that cartilage, bone, fat, nerve, and thyroid gland tissue can be transplanted and carry on their intended duties—then common sense, deduction, logic, and reason force the conclusion that sex gland tissues can be grafted or transplanted and carry on their physiological action.

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The Medical Editor's Attitude Toward the Present Trend of Events*

By H. J. ACHARD, Chicago, Illinois

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IT may be questioned whether the present trend of events differs in essentials from the trend of events at almost any time in the last few hundred years and, crossing the chasm of the middle ages, during the last three hundred years B. C. It may be bromidic and more or less trite to declare that we (not we as a people, as a nation, but we as a profession) live in a period of unrest, disturbed within our ranks and beset from without. We may feel this state of affairs keenly, but the

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student of medical history knows that, even here, the conclusion of the Preacher holds good, that there is nothing new under the sun. As far back as the days of ancient Babylon, and ever since then, physicians have been the ready target of hostile shafts of criticisms, witticisms, sneers, outright condemnation and good-natured banter.

It is a peculiar truism that, now as in times gone, school medicine, the supposed or alleged medical authority, stands more or less unmoved under these varied attacks, as it always had done, condemning that wholeheartedly which does not originate from within its own ranks or for which it had not issued its sacrosanct approval. As, centuries ago, innovations, improvements, condemnations of vicious practices were resisted by school medicine with all the power that the holders of authority could muster, so now it seems to be the easiest way to condemn everything that is not in agreement with the tenets of the socalled regular school.

It always has been hazardous to hold and express opinions at variance with those of "authority". Bodington, of England, paid dearly for his assertion that pulmonary consumption could be treated successfully by rest, proper diet and fresh air. Hahnemann and the Eclectics, who rebelled against the brutal bleeding, puking and purging that was insisted upon by school medicine far into the nineteenth century, were ostracized, condemned, vituperated, designated as quacks, charlatans, knaves, even as the innovators today are. It is a peculiar thing that, as late as 1845, one of the chosen spokesmen of the old medical practice publicly could declare that "medical science does not need, nor is it susceptible to, further improvement or reform". Such smug and fatuous self-complacency surely might cause one to despair, if we did not have the assurance that new things will prevail if they are good, despite all attempts of reactionaries to ignore or to destroy them.

The Physician and the People

The last generation has witnessed a decided modification in the popular attitude toward the medical profession. No longer are the dicta of the medical man, his diagnoses (unexplained) and his orders accepted without comment, but there is a very active and energetic tendency to advance various and insistent whys to the physician's opinions. It seems as though the old-time, if imaginary, infallibility of "the doctor" had come to be doubted seriously and that people insist upon using their own intelligence and prefer actually to consult with their medical attendant rather than request his orders. The reasons for this are complicated and are partly connected with an active propaganda directed against the medical profession and partly, undoubtedly, due to a misunderstanding of a change in the attitude of physicians themselves who have learned to admit that there are things that they don't know and against which they are powerless.

As a matter of fact, there has never been manifested so much honesty in medical research as there is now. We have come to realize and to admit our limitations. We have learned to grant that there are certain things which, under present conditions, we can not know and can not explain. It is readily to be understood that such an evidence of honesty is taken by some to mean an admission of ignorance, while others accept it as an additional claim to confidence.

There are too many factors at the present time disturbing the even tenor of our ways than that we could discuss them and investigate them in great detail. There truly is an unusual degree of unrest, of dissatisfaction with existing things, of sincere and emphatic desire for something better. Strangely enough, we can not in this instance blame things on the War; for, many of these disturbing elements had their inception long before it and are as much signs of the times as the War itself was.

Mental Therapy

Almost a generation has passed since one of the greatest antagonists of the medical profession arose in the shape of Christian Science which, indeed, was not new by any means but waged war with an intensity and virulence that had never before been attempted in this direction. To be sure, Mesmer, almost a hundred years ago, had utilized certain phenomena, but dimly understood, and had employed mental healing to a degree that was striking. In the seventies and eighties of the last century, various religious institutions of faith healing had been maintained here and there. I remember one in Switzerland where the faithful were treated by fasting and prayer and where the success of the treatment was held to stand in direct proportion to the faith manifested. Mrs. Eddy's success was due, in part, to the fact that she appealed to the educated and that she cleverly mixed the mystical and the religious factors with a bland denial of material imperfections. In her wordy but unmeaning disquisitions, she flattered those who, while fairly well educated, still failed to have acquired a mental balance. If they could

imagine that they understood Mrs. Eddy's verbose discourses, they, naturally, believed themselves wonderfully clever and accordingly persuaded themselves that they derived benefit. Mental healing, we fully understand, has a distinct place in the therapeutic efforts of the physician; and, here as elsewhere, it would have been better to offer less antagonism to the enemy from without, to admit and accept this potent therapeutic force, to make it our own deliberately rather than to oppose and decry it, to declare it vicious—only to be obliged, in the recent past, to admit its basic justice, even though it will never be possible to accept all the absurd frills and clouds with which Christian Science has surrounded it.

Homeopaths and Eclectics

We already referred to the energetic and partly successful reaction against the excessive bleeding, puking and purging to which the unfortunate sick of a hundred years ago were subjected and which were antagonized so fiercely by the Homeopathic and Eclectic schools. In course of time, as was inevitable, that which was good in the tenets of these innovators had to be accepted. The idea of small, frequently repeated active remedies, of single remedies instead of cumbersome mixtures, the employment of drugs that do no harm in reasonable doses, the greater discrimination in the employment of possibly injurious remedies and even some very excellent remedies that these two schools introduced to us—all these things we have to acknowledge, and it has come about that Homeopathic and Eclectic physicians are accepted as reputable practitioners and treated as equals by members of the regular medical profession, providing only that they do not insist upon their sectarian tenets but content themselves with practicing medicine purely for the benefit of the patient.

Mechanotherapy

Then came the tendency to employ mechanical methods of treatment. The hydropathic school is fairly old, so old, in fact, but even the Nestors of our profession can hardly remember its infancy. Closely associated with it was the Swedish massage to which were added other forms of mechanotherapy and out of which grew, in more recent times, the teachings of the osteopathic and of the chiropractic schools. I frankly and willing apologize to the former for naming the two schools together. In many ways, they undoubtedly do form one group. Still, we all know that the osteopathic school has developed to a considerable degree and its graduates now are obliged to undergo far more intensive and thorough courses of training and of study than was the case originally. I see the time coming when the osteopathic school will develop still further and merge in the larger medical profession, as had been the case with the Homeopathic and the Eclectic schools.

It is somewhat different with the chiropractors whose teachings are based purely on assertion for which there exists no foundation in normal or pathologic physiology. Indeed, the founder of that school was so frankly and irrevocably opposed to study, to the acquirement of knowledge, that his case is all but hopeless.

The Chiropractic school has two powerful weapons which it utilizes to the fullest possible extent and with a degree of success that is startling and may well shake our confidence in the inherent good sense of man. These two weapons are, first, blatant assertion and, second, clever and persistent advertising. According to Chiropractic "teachings", all diseases are due to the fact that one or another of the nerves leaving the spinal canal are impinged upon. It does not matter what ails you, whether it be an infectious disease, diphtheria, pneumonia, influenza, typhoid fever, yellow fever, smallpox or lues, the trouble is caused by an impinged nerve and a spinal adjustment will relieve it. Systemic diseases also yield to the marvelous touch of the spinal adjustor. The more serious and hopeless the disease, the better the Chiropractor likes it and the more loudly he claims a success. Even the wart on your nose and the corn on your foot, the denuded state of your cranium, and the synovitis commonly known as housemaid's knee, they all are referred to impinged nerves and all are treated by adjustment.

It is hardly thinkable that the Chiropractors could impress people with their deplorable nonsense, if they did not advertise so cleverly, claim cures so arrogantly and vituperate the medical profession so viciously. Strangely enough, they have some protagonists who should know better and of whose intellectual qualifications we must entertain serious doubts when we hear their spoutings. On the occasion of the last Palmer School of Chiropractic Lyceum which was held in Davenport, Iowa, last June, I think, a well-known Chicago criminal lawyer orated eloquently and vociferously concerning the short-comings of the medical profession and the great merits of Chiropractic. Some of you may have honored me by reading my editorial in regard to this matter in the October issue of CLINICAL

Medicine. I took for a text Proverbs 26:5, "Answer a fool according to his folly". Mr. Darrow is particularly incensed, as are, indeed, all irregulars from Christian Science down, at the legal necessity that exists in most states of the Union for passing an examination before you offer your services as a healer of the sick. This legal restriction, unfortunately, affects those most severely whose training has enabled them most efficiently to deal with sick people. It is far less searching, the examinations are far more easy and the license boards less stringent in their demands in the case of irregular cults. Even so, the gentleman whom I referred to just now and all defenders of the irregular cults declaim loudly in favor of socalled medical liberty and against laws that restrict the practice of healing. Yet, these people would, undoubtedly, resent fiercely a provision through which anybody were permitted to run a steam engine or a street car without having passed a searching examination demonstrating his fitness for the work. That legal gentleman referred to would probably refuse to admit anybody to the practice of law without having passed an examination and, undoubtedly, he declaims just as loudly against shyster lawyers as he does against regular physicians. Only, in the two cases, the advantages lie in different directions.

We need hardly talk about naprapaths, naturopaths, nor even need we mention Rogers' autohemic therapy, and Abrams' reduction of all human ailments to three, namely, cancer, tuberculosis and bovine syphilis. What is good in all of these systems of pretended healing is known to us. The rest is chaff.

Some Good in All

There is, however, this to be considered, especially from the viewpoint of the medical editor to whom the practitioners look for expressions of opinion. It can not be denied that, in all these systems of healing by mechanotherapy, there is some good and, in many cases, the means that may be employed to advantage are not fully and sufficiently understood by physicians. Instead of calling quack and charlatan and knave and letting it go at that, instead of demanding a closed door in favor of the regular medical profession, instead of laying ourselves open to the reproach of maintaining a dog-in-the-manger attitude, it would be far more useful for us as a profession to investigate impartially, sincerely and honestly every system of healing that is proposed in good earnest, to determine its possibilities and its limitations. In so far as it possesses merit, any method can justly and properly be adopted by the medical profession and it should be so adopted. Ninety-nine out of a hundred sick people would rather receive a spinal adjustment in the few cases where it is required, or an osteopathic treatment, at the hands of their regular medical attendant, than resort to a chiropractor or an osteopath.

It would be the part of wisdom to employ all means that possess good in those cases in which they are suitable; but, above all, physicians should be familiar with methods offered or proclaimed as good by the cults whether they are useful or not. I repeat, they should be familiar with them and should not discard them without adequate examination. Some of us remember the early days of electrotherapy concerning which Doctor Rockwell has recently written so entertainingly. I think it was Doctor Loomis who advised him to leave electricity where it belonged, namely, in the hands of quacks and of old women. Another of the leading practitioners of New York told him that no physician in good standing could afford to use such charlatan methods. If Doctor Loomis and his contemporaries could come back now, they would be astonished at the development of electrotherapy in its various modalities. Yet, at one time, electrotherapists were considered as quacks.

Federal Regulation

For some years, there has been a tendency with respect to the medical profession as in many other activities in civil life, to regulate and order activities from a central national office in Washington. The provisions of the Narcotic Law, those of the Volstead Act, in so far as both affect physicians, are but two instances of this tendency to nationalize the medical profession and to make its members subservient to the bureaucrats in Washington and their understrappers in the various state departments. Congress has even arrogated to itself the decision as to how much of a certain drug a physician may prescribe to any patient in the course of one week. The notorious Shepperd-Towner Act is another instance illustrating this tendency, and the attempt to regulate the work of physicians, to card-index and to supervise the patients, is unmistakable. State medicine, or nationalized medicine, seems to be on the way and threatens to deal as evilly with the medical profession in our country as it has done in Germany and in England. In addition to State Medicine, there are various lay agencies of which the Red Cross may be designed as the least injurious. All of

them have invaded the physician's territory and have not only rendered his work more difficult but have also interfered greatly with his opportunities for earning a livelihood. As far as I can find, the medical societies in New York and in Illinois, partly also those in Massachusetts, have been most active in fighting against these tendencies of nationalization and of central control. It is to be hoped that we can influence the individual members of the medical profession sufficiently to realize the danger that approaches them and to convince their patients and their friends of the gravity of the problem.

Miss Keller's Investigation

Despite Robert Burns' fervent wish that we might be able to see ourselves as others see us, its consummation is not always pleasant, however good it may be for our souls. This is particularly evident on reading a report of the laity's idea of the physician, which Miss Buda Carroll Kellar presented to the last meeting of the Illinois State Medical Society and which was published in the *Illinois Medical Journal* for July. This report discovers to us what 6772 persons, in and out of Chicago, actually think of the medical profession and why they patronize other healing agencies. It is good for all of us to read this report and to read it again. We, as editors, can influence medical thought to a degree. There are several wholesome lessons contained in this report and we should take it to heart.

Too Few Doctors?

Another one of the problems confronting the medical profession is the alleged dearth of doctors in certain districts and the supposed disappearance of the family doctor. As I have pointed out quite recently, it can hardly be said that there are too few doctors to serve the needs of the medical profession. The trouble is much rather with their distribution. After having spent from six to ten years in preparing for the practice of medicine, a young graduate naturally hesitates to go to the country to treat little Johnny for his snuffles and little Sally for her tummyache. He wants to do big things, enter a specialty and take in big fees. Yet, the people in the country are entitled to the services of a physician and it should be made possible for them to procure one. The experiment recently made in Sharon, Kans., where a physician was employed by the community at a stated minimum salary, is interesting. It, or a modification of it, may possibly solve many of the difficulties of distribution.

The family physician seems to have been overshadowed by the splendors of the specialist and seems to have lost ground. You are familiar with the assertion of Sir James Mackenzie, that it is the general practitioner, the family doctor, on whom medical science and medical progress depend for much information in the study of disease, that is essential for its correct and just appreciation. There are many people who think as Sir James does, and I believe that the many disadvantages of overspecialization and the extreme and high cost of medical attendance which, as a first reaction, have driven many people to the cultists, will cause the pendulum to swing back and to restore the general practitioner to his dignified and essential position as a splendid factor of medical practice. Without medical practice, mind you, medical science would have no reason for existence. Medical science is a beautiful thing, but it is useless unless its lessons can be applied in practice. It goes without saying that the numerous trials and tribulations, the constant difficulties and disappointments that the physician encounters can be overcome by a proper change of heart, change of methods, change of attitude. That physician who sees in his patient a human being that is sick, and not a collection of organs with perverted function, will be more successful because he takes into consideration the mental factor, he deals with his patient as a person endowed with mind and he influences that mind. Treating a patient merely as a bit of machinery, or as one hardly treats a sick dog or horse, may be successful up to a certain point; but, the practitioner who follows that plan never will have warm friends in his patients.

Further, it is time for physicians to give up their aloofness from everyday affairs, their splendid isolation, their exclusive preoccupation with matters immediately connected with their work. Physicians are not only medical practitioners; they are, incidentally, citizens, fathers of families, just folks. If we meet our neighbors on a friendly, humane and human footing, if we share in their interests and explain to them the inevitable questions that they will submit to us (shop talk, if you will, but still of interest to them), we shall contribute greatly to a much needed popular education in matters medical. Various great metropolitan papers are attempting to do that, and the physicians attached to the editorial staffs of these papers accomplish much good. Popular education should go much further and reach everybody that can be reached.

Another thing, it is about time that physi-

cians amongst themselves assumed a more dignified attitude and give up their little jealousies, their little back-bitings, their little pieayune differences of opinion. If there is no unanimity in the medical profession, how can we expect the public to respect us? This is just a pointer. A reproach is constantly being made that doctors fight amongst each other more than do even musicians.

As medical editors, we wield an influence that is almost unlimited in its possibilities. This influence can be exerted for good or for evil. It rests with us which it shall be. It is for us to inform ourselves honestly and fully, not only of the actual medical and professional problems that confront our colleagues in active practice but also of the various factors that touch medical practice and, no less, those questions of public, social and family life in which physicians should be interested and play a leading role. It is our duty to investigate everything that can be of interest to those who look to us for advice and guidance and to express our advice in such a manner that its honesty and disinterestedness, its excellence for the public and the professional welfare can not be a matter of doubt. It is a mighty good plan to investigate honestly and impartially everything that is offered for the good of the sick. Having done so, only that which is actually good and meritorious should be accepted.

Saving the American Chemical Industry*

By ERNEST H. VOLWILER, Chicago, Illinois

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THE domination of world chemical markets by Germany, before the war, has been so often referred to and explained that, to repeat it here, is inviting the accusation of being trite. Nevertheless, the outstanding factor in our chemical industry, up to 1915, was the German throttle hold, and a reference to that period can have no proper background unless that fact is taken into consideration. Speaking of the period before 1914, we cannot discuss saving the American chemical industry; for, there was practically none to save. A few dyes were being produced, from imported intermediates, by several rather small concerns whose stockholders probably felt like the Irishman who was being ridden on a rail. When his tormentors stopped to rest, Pat exclaimed, "Begorra, if it wasn't for the honor, I'd rather walk".

Practically the only medicinals then manufactured were the salicylates and their derivatives, and these were made in German-controlled factories; some phenolphthalein and saccharin were being produced also.

Hence, when we speak of saving the American Chemical Industry, we must mean saving an infant which was born after 1914—and a lusty infant it has now become. Growing-pains are still evident at times, and immaturity is still somewhat in evidence; but it is a healthy infant, which has largely had to depend upon its own initiative in order to survive the powerful attacks of those from without (and also, unhappily, by some from within) who sought to destroy it. The story of the rapid growth of this infant is an interesting one, but only a few of the important developments relating to medicine can be mentioned here.

How It Started

No story of this nature can begin or end satisfactorily without mentioning the arsphenamines and telling something of their interesting development in this country. As early as 1915, when, as you know, foreign supplies of salvarsan were almost unobtainable and the prices were out of reach, small quantities of satisfactory American arsphenamine were produced by the Dermatological Research Laboratories, of Philadelphia, at a price which was lower than any price placed on the product by the Germans. This effort to supply the American wants did not go unchallenged, for the German representatives threatened suit for infringement of patents, even though the Germans themselves had never produced a Gram of Salvarsan in this country. The work in Philadelphia continued, however, and, as the years progressed, the quality was steadily improved and the price lowered. There are now half a dozen American manufacturers of these indispensable arsenicals supplying our needs with drugs of unsurpassed quality.

At the same time that these developments were taking place, the other important remedies which were needed in medicine were being produced—barbital, or veronal; cinchophen, or atophan; anesthesin, procaine, luminal

*Read at the Annual Meeting of the American Medical Editors' Association, Chicago, October 25 and 26, 1923.

—these and others of domestic manufacture soon appeared upon the market, most of them soon attaining prices lower than the American physician had ever known before. One fact in this connection is very striking. There were some seven or eight hundred German patents on synthetic medicinals in operation in this country, in 1914, but only a very small number—perhaps several dozen—of the products described therein were in demand by the American physicians. What about the remainder? They were products of various types—some which seemed promising at first, but did not hold up; many never were of any apparent value, but the patents were taken out to cover series of compounds in which future developments were expected, in order to keep others from getting into the field. When all these patents were taken over by the United States and carefully investigated, most of them were passed by as being valueless, leaving only a dozen or two of really valuable synthetic medicinals, virtually all of which are being produced in this country.

American Chemical Research Stimulated

If the American chemical industry had done nothing but make available the essential medicinals so sadly lacking during the war, it would have accomplished an important task. But, this work was used as a stepping stone to discovering and producing newer and better products—the results of purely American research and development. No other country can show more important advances during the last eight years, and it is doubtful whether any can submit an even comparable record of achievement.

If we pause for a moment to consider this point, we shall at once bring to mind some of the best drugs available to the physician: among antiseptics, the universally used chloramines, the therapeutic discovery of which may be listed as one of the benefits resulting directly from the war; new local anesthetics, apothesine, butyn, and butesin; the benzyl esters developed as the result of Macht's work; mercurials, such as mercurochrome, metaphen, and mercurosal; the exceedingly potent and important glandular products, thyroxin and insulin; the synthetic fat, intarvin, which, when fed to diabetic patients, apparently does not gives rise to acetone and butyric acid derivatives as ordinary fats do; new arsenicals of which the best known up to the present is tryparsamide, discovered by the chemists of the Rockefeller Foundation in New York City and found promising for African trypanosomiasis. Apparently valueless in human syphilis because of the danger of producing blindness, it was revived as a promising cure for neurosyphilis. These individual facts we all know; but, unless we stop to think about the matter and summarize the achievements of American chemistry during recent years, we are apt to overlook many of the important contributions.

The American chemical industry has survived a trying and at times almost hectic existence, and it is not yet out of danger. During the war, when chemistry was a byword with everyone and the national defense depended upon it, no protection was needed, for there was no competition. This condition ended with the armistice. Past experiences were still vivid enough, so that Congress erected the barrier of a temporary embargo against the waves of cheap foreign chemicals, made with cheap labor and from cheap intermediates. When the Fordney-McCumber tariff act went into effect, the embargo was abandoned. Under the tariff act, certain products have all the protection they need, while others, particularly the non-coaltar synthetics, are not sufficiently protected. Were it not for the unsettled conditions in Germany in general and the Ruhr in particular, during the past year, it is certain that the manufacture of some important non-coaltar medicinals would have had to be abandoned in this country.

The Chemical Foundation

The Chemical Foundation has done much to keep out smuggled and illegally imported foreign chemicals, and has gone far in a sustained effort to encourage American manufacturers. The Foundation has been very severely criticized at times by those who did not understand its operation and by those who were opposed to the home industry; and finally this opposition crystallized itself in causing the Government's suit against the Foundation, to recover the patents purchased in 1919 by the latter. The decision in this case has not yet been handed down, but several things of note have developed in the course of the trial. The Government's charges of fraud were dropped almost at once; the charges of conspiracy were not supported by the evidence in a single instance, and the attorneys for the government have at times been placed in the anomalous position of failing to bring out evidence in their own files which would have nullified their own arguments. A comparison of the witnesses who appeared for the Chemical Foundation with those who were called by the Government is also of interest.

What of the Future?

With experience and growth, the young industry will adapt itself to meet all competition, but it is hardly fair to expect it, in less than ten years, to be as firmly intrenched as was the German industry after more than fifty years of intensive development. The growing appreciation of what the industry means to this country is excellently illustrated by the words of Herbert Hoover, Secretary of the Department of Commerce, who says:

"No human person can evaluate the contribution of the science of chemistry to the advancement of civilization. The enormous advance in standards of living, the greater margins of comfort, the lessening of physical exertion required to attain these things, the relief of suffering, the extension of health and life, have all received the most vital contribution by the applied science of chemistry. Moreover, our future advancement is indissolubly dependent upon our advance in the twin sciences of chemistry and physics and their application. Indeed, with steady accretion of understanding, the border lines between these sciences are gradually disappearing. Incidentally, the chief job of political and social science is to develop methods of keeping their field in pace with the changes imposed upon them by industrial chemistry and physics.

"Industry and commerce have grown rapidly in recent years in their appreciation of the fundamental contribution of pure science of both chemistry and physics. The great increase in private research laboratories, the fine support of our public institutions, are the mark of this realization. Discovery and invention are now no longer the function of the garret genius. They are the result of deliberate organized exploration by our men of pure science. New discoveries and their application will come faster and more securely than ever before; and, I believe, the next half century will be greater in its triumphs of science and in their contribution to human welfare than even the last fifty years—for we are better trained, better organized, better equipped for discovery than ever before."

During all this effort to build up and save the American Chemical Industry, no group of men has given more hearty support to the work or contributed more towards the accomplishment of the program than the editors of the medical journals. They have encouraged the use of American medicinals and have fought the importation and surreptitious smuggling of drugs; and, most important of all, when their opportunity came in 1922, during the debates in Congress on the degree of protection to be given to chemical products, they loyally backed the industry and fought for an adequate tariff. What was accomplished is largely due to their efforts. Since the war, we have repeatedly heard the question asked, "Who won the war?" The answer is "Everybody who cooperated!" In asking the similar question, "Who saved the American Chemical Industry?" we have a similar answer. In accomplishing the task, the editors of the medical journals played a leading part. With their continued support, the industry can pursue its rapid growth and assume a leading place in the world markets.

Starvation Polyuria and Starvation Edema*

A Modern and Historical Discussion

By ALFRED MARTIN, Bad-Nauheim, Germany

STARVATION polyuria and starvation edema as disease entities were little known prior to the last war. True, edema associated with marasmus was recognized, but it was not brought into relation with starvation and probably is associated only in part with malnutrition; moreover, it does not attain to the intensity of edema. The starvation polyuria probably was quite unknown. In America, it is not likely that either one of the two affections was observed. Still, I know of one historical case which I shall relate in the following.

In the literature at my disposal, strangely enough, no reference is made to the fact that one and the same disease is concerned here. In my opinion, the polyuria is a stage preceding the edema.

In protracted wars, during which people were forced to go hungry, edemas have been reported by chroniclers. For instance, a Magister Johann Daniel Mincks, in Gross-Bieberau, in Hessen, relates in his chronicle that, during the Thirty Years' War, great famine existed from 1635 to 1638. He says: "Because of this famine, people starved to such an extent that they were actually nothing but skin and bones. The skin hung on their bodies like sacks. They were black-yellow, with large eyes, the teeth exposed, the skin covered with eruptions, jaundiced, the bodies greatly swollen, afflicted with fever so that it was horrible to look at them." Nothing is said about copious micturition. Possibly it did

*Translated from the German Manuscript.

not strike people as out of the common.

A Historical Case

Of the greater interest is the following historical report from America. My reporter was a close observer and described the horrors of starvation in minute details. I reproduce only those passages that interest us, as I find them in "Emanuel Crespel's Reisen in Kanada und Schiffbruch bei der Rückkehr nach Frankreich", which was translated into German and published by Karl Esselborn and was issued as No. 25 of the "Hessische Volksbücher" (Publisher, Professor Diehl, in Friedberg, Hessen). The Observantine Padre, Emanuel Crespel, a Frenchman, an uncle of the friend of Goethe, the Counsellor Crespel in Frankfurt A. M., had gone to Canada as chaplain and intended, on November 3, 1736, to return from Quebec to France. The ship was wrecked eight miles from the southernmost point of Anticosti. Since succor could not be hoped for before the end of April, precautions were taken to ration the provisions. "We arranged accordingly," Crespel writes, "our rations in the following manner: Mornings, we boiled two pounds of flour in melted snow which gave us a paste or, rather, water gruel. Evenings, we boiled, in like manner, about the same quantity of meat. There were seventeen of us and, therefore, each one had about four ounces of food. Once a week, we ate peas instead of meat and, although each one received but one soupspoonful, it still was the best of all our meals."

The cutting and transport of wood, which was necessary on account of the cold, caused enormous exertion. "Our weakness increased in the same degree in which our labor became greater", remarks Crespel. "The smoke and snow caused severe pain in the eyes, and, what was the worst evil: we had no bowel movements but a flow of urine that did not give us a moment's peace. I leave it to the physicians to inquire whence these two troubles might have come. Even if we had known the cause, this knowledge still would not have served us. There is no advantage in discovering the cause of an evil if there is no possibility to employ a curative remedy."

In January, 1737, the first deaths occurred. The upper servant and the carpenter died of exhaustion. From January 23 to February 16, there were no deaths, "although many of our people had swollen limbs". After that, death reaped a rich harvest through hunger and cold. When, early in May, some Indians made it possible for Crespel to join a Frenchman whom he knew, the latter did not recognize him. Then they undertook the relief of the others. Four of another group of the victims of the shipwreck were found alive. Their faces were entirely fleshless and their voices showed that they were near the grave. One died while drinking a glass of brandy. Twenty-one persons were buried. Of the three survivors, one had lost his mind. The bodies of the two others were swollen greatly.

"The good nourishment that was given them and the care that they enjoyed restored them, though not completely, still sufficiently that they were able to return to Quebec with us."

These people were even worse than Crespel's own group. Lacking every form of food, they had boiled the shoes of those who died, in melted snow, roasted them over hot coals and eaten them. When this supply gave out, they resorted to leather breeches and they possessed only one or two pairs of these when they were found.

Polyuria Precedes Edema

Here it may be seen clearly that, in starvation, the polyuria precedes the edema. During the war, I have seen no edema patients. However, of polyuria, I suffered myself in the worst way during the terrible famine year of 1917. A comparison of my pictures, taken in

Dr. Martin in 1913

1913 and 1917, will illustrate the emaciation through hunger. In 1916, the state of my nutrition was still good. Then, I lost fairly

rapidly from twenty to twenty-five kilograms (from forty to fifty pounds) and the polyuria made its appearance. I voided enormous quantities of urine, especially at night time, so that a large chamber did not suffice to hold it all. Sleep was disturbed greatly by the necessity of rising. It is true that many a night I went to bed hungry. I had to do that because my children did not have enough to eat and fought for the bread that was bad enough, so that, finally, we had to apportion to each one his share and whoever had eaten it too early had to go without.

The Etiology

Many theories have been advanced to explain the occurrence of the starvation edema.

Dr. Martin in 1917

It goes without saying that the cause lies in the insufficient nutrition. The fault has been placed with the turnip (Beta vulgaris) which was eaten much, especially in 1917. It sounds like irony if one reads today what was written in December, 1916, in order to make the people forget the lack of meat: "It is necessary to combat, again and again, the old belief of the peace time that large quantities of meat protein are indispensable. Far more seriously than the lack of meat, does the scarcity of potatoes affect us. Even here, though, there exists a means for equalizing the want, namely, the carrot, the turnip, and the beet, the protein content of which is about equal to that of the potato. With regard to the content in carbohydrates, it is true that these roots are inferior to potatoes, but this will have to be equalized by a somewhat increased consumption." Then followed what may be called virtually the turnip period with its polyuria and its edema. I do not view the turnip as the cause; still, it did not supply that which was lacking.

According to my way of thinking, we must look for the cause in the want of fats. An American colleague, who visited me in 1923, observed in his own person that, in Germany, he was obliged to pass more urine than in America. He believed the cause to lie in the fact that, even now, in Germany, the dishes in the hotels where he ate were prepared with less of fats. I myself found my health improved by adding fat to my rations.

How does the absence of a certain constituent act, let us say, of the fat? What happens in the body?

Pathogenesis of Edema

Interesting experiments have been undertaken by a physician in Leichlingen, Doctor Beck, which were published in the *Therapeutische Berichte*, 1918. Beck had ample opportunity to treat edema patients.

In all uncomplicated cases, he found an extremely low blood pressure. He concluded quite correctly that this might have a double cause, either a diminished power of the heart or a dilatation of the vessel lumen; that is to say, a lessening of the circulatory resistance. Unfortunately, Beck does not say how he tested the heart force, but he does indicate that, in all cases, the examination of the heart force showed entirely, or almost entirely, normal conditions. It seems to be important to me that the socalled cardiac tonics were employed without results. Beck concludes that, therefore, the low blood pressure is due to an abnormal vascular dilatation and, consequently, the edema is caused by the same factor. As for treatment, he believed the administration of secale cornutum to be indicated which had been administered even earlier, for instance, by O. Rosenbach, in order to increase the tonus of the arterial system.

Beck did not use secale cornutum but a synthetic secale substitute ("Ersatz"), the Tenosin (manufactured by Friedr. Bayer & Co., in Leverkusen near Cologne) and he had surprising results. Commonly he took 20 drops of Tenosin-Liquor, three times daily. In a relatively short time, usually after from three to five days, the edema disappeared entirely.

In the starvation edema, but little urine is eliminated; during its early stage, that of polyuria, much urine is passed. The cause of

the whole malady, therefore, can not be attributed to the fact that the vasoconstrictors of the small arteries have lost their function so that the vascular tonus was diminished. The cause lies in the absence of certain food constituents through which an increase of fluid in the vascular system was brought about. At first, this was eliminated (polyuria). Then the vasoconstrictors became weakened and the fluid transuded from the vessels into the tissues—edema. Unfortunately, Beck does not indicate whether his patients suffered from polyuria after their "cure", for he did not remove the cause of the disease, that is, the insufficiency in nutrition. Relieving starvation restored even Crespel's companions who had become greatly edematous.

In any event, Beck's observations are of importance. His therapy will be of excellent service in many cases of edema that originate neither in the heart nor in the kidneys; for instance, in the edema following the rapid antifat treatment.

The Treatment Is, Food

The best therapy in polyuria and edema of starvation is, at any rate, the relief of the starvation. Germany is grateful to America that, after the war, this country supplied the best curative remedy by sending foodstuffs through which nourishment could be afforded especially to the children with their growing bodies. In this manner, indirect assistance was rendered to the grownups likewise. It has not come to be sufficiently known how often mothers starved to death because they gave their last to their children. Many times, it was said that certain children were not at all badly nourished, but, if one could see the mothers, one could understand how greatly in need the family was of additional food.

Unfortunately, the spectre of famine again threatens Germany. The potato harvest is bad and the dreadfully high cost of living forces already great portions of the people to go hungry. All economy in spending money, the greatest industry, everything is in vain if each additional depreciation of the Mark causes the savings in money to lose their value. The moral effect is terrible. The impetus to save is lost: Physical and moral improvement will only be possible when the financial conditions of Germany are placed on a solid foundation.

Parathyroid

A Calcium-Mordant in Tuberculosis

By HENRY R. HARROWER, Glendale, California

FIRST, I must explain the terminology of my title. A mordant is a chemical used by dyers to make the color stick. It is an essential part of the process. A "calcium-mordant" then, is something which is capable of "fixing" calcium or making it stay in the system, and I propose to show in this paper that not only is a "calcium-mordant" something particularly needed in tuberculosis, but that recent investigations evidently have disclosed to us that the "leakage of calcium", which takes place in several diseases and especially in tuberculosis, has to do with the endocrine mechanism of the body and, more interesting still, may be modified by organotherapy.

I submit to readers of CLINICAL MEDICINE an idea (not altogether original with me) which evidently has an important bearing upon the great tuberculosis problem and which, at the present writing, is new and only tried in a limited way.

Realizing full well that "cures" for tuberculosis come and go from year to year and that even most promising remedies last but a short while and rarely "stick", I submit these subjoined comments in the hope that they may indeed develop into something permanently useful.

Lime Starvation in Tuberculosis

There are a hundred or more papers on various aspects of calcium loss, lime starvation, demineralization and the metabolic features of the tuberculous. Summed up, they show that, whether as cause or effect, the calcium content of the organism is *decreased* in conjunction with the development of tuberculosis. Some of the writers, like Bayle, of Cannes, believe that the body lacks certain catalysts or "colloidogens" which not only prevent the humanizing of calcium salts (the bringing about of that change from mineral or crystalloid to human or colloid) but at the same time allow the already colloid calcium to be lost either by elimination through the kidneys and the bowels or by neutralization. Another French writer once wrote enthusiastically about a urinary test for early tuberculosis. It consisted of a study of the calcium loss, which is so often increased in connection

with the development of a tuberculous lesion.

Still others have shown that the expected malnutrition in tuberculosis was largely due to the *status calciprivus,* or lime starvation, and the natural effort has been, to give more lime —organic from bone, superorganic from fresh "green" bone, or in the form of various inorganic calcium salts. There are many forms of calcium on the market for oral or intravenous use. Many foods are recommended as being especially suited for the tuberculous because of their calcium content. Milk is the chief of these. So:

The calcium feature of the metabolism and nutrition in tuberculosis is paramount.

The Cause of Calcium Depletion

There is some difference of opinion as to why this calcium loss is so uniformly found in this disease. Naturally, a weakened, run-down person loses somehow, and calcium is as likely to be lost as other elements. Or the toxemia of tuberculosis tends to cause acidosis, and the natural chemical result is the neutralization of at least a part of the body's store of alkalies, of which lime is the chief in both, amount and essential importance to the organism.

Again, there is supposed to be a specific product, presumably of bacterial origin, which undoes the body's calcium-storing powers; while, as I have already mentioned, Bayle believes that a product of this nature (a colloidogen) is not being manufactured in sufficient amount by the endocrine system and the body loses its calcium because it cannot "fix" it. Anyway:

Calcium fixation is an important feature of the nutritional regulation in tuberculosis.

It is immaterial whether this calcium derangement is due to calcium starvation, to endocrine catalytic defects or to chemical destruction. We must admit for the purpose of upholding our conviction that the foregoing is true. Granted that there may be differences of opinion as to the manner, we insist that:

Tuberculosis is a disease of nutrition and the calcium metabolism is of transcendent importance.

The Control of Calcium Loss

How then shall we combat this state of affairs?

With calcium-containing foods or remedies? Why not? When the body particularly needs a certain element, it is for us to supply it as best we may. And we should; for, nothing can take the place of this important element.

With measures calculated to lessen calcium depletion or neutralization? Certainly. Detoxication, control of the complicating mixed infection, lessening the febrile feature with whatever we have found of value, are both sound and sensible.

With the artificial enhancement of the body's calcium-fixing powers? Yes, indeed, provided a way can be found to do this.

This idea of encouraging calcium fixation or "stopping calcium leakage" is the big idea I am passing along.

Blood Calcium Variations in Ulcers

Elsewhere, I have recounted the epoch-making work initiated at Cambridge University, which connects calcium loss with the cause of ulcers and shows that parathyroid therapy increases the blood calcium *by actual test* and, still more remarkable, often heals these ulcers. It is a fascinating story, and it outlines one of the most astounding new chapters in the story of organotherapeutic advance.

Briefly, the proposition was this: Vines and Grove found a low blood calcium to be the rule in a series of cases with leg ulcers. They fed these patients parathyroid, brought up the blood calcium figures to the accepted normal, and the ulcers healed. Some of them were of years' standing and had been resistant to many measures. They continued their studies. Low blood calcium was found in a series of cases of gastric ulcer, of duodenal ulcer, of intestinal ulceration (sprue) and even of chronic middle-ear infection. Naturally, they tried to raise the low calcium figure, as they had succeeded in doing previously: with parathyroid extract *by mouth.* Almost invariably, they caused the 30-percent, 50-percent or even 75-percent reduction in the calcium to be replaced by an apparently normal figure, in a few weeks. And, by maintaining this figure (they continued the parathyroid therapy and the blood calcium estimations), they have succeeded in curing a satisfactory percentage of these varied forms of ulceration. A thousand tests have definitely proved that:

Oral parathyroid therapy increases the blood calcium figure with coincident healing of ulceration of years' standing.

Clinical Proving of Organotherapy

The question arises: How can an extract of parathyroid, given by mouth, be active when such products are claimed by some to be destroyed in the digestive canal? I answer that the claims of such persons are made in error. For, all this meticulous laboratory work at the Beit Memorial Research Laboratory of the University of Cambridge has proved and proved again that oral parathyroid therapy is

one of the most active forms of organotherapy and that its therapeutic efficacy is actually measured by the laboratory findings—*the raised blood calcium figures!*

Other recent research work lends confirmation to this. For instance, Professor Salvesen, in the University of Christiania, has been studying the control of the parathyroids upon calcium storage. Remove or cripple these insignificant little organs, and the calcium fairly "leaks away" from the body. Administer calcium in such circumstances and *ninety percent of it passes out through the bowel*, no matter whether the calcium is a food, as in milk, or a drug, as following intravenous injections of large amounts of suitable solutions of calcium salts. This is but additional support to the discovery of MacCallum, at Columbia University, that parathyroidectomy causes calcium starvation and that the tetany resulting from the removal of these glandules may be controlled, at least temporarily, by injections of calcium.

It is all a very interesting story begun only 35 years ago by the discovery of these little organs by the Swedish physician, Sandström.

The Essential Idea

As to whether my suggestion is going to be feasible, and parathyroid therapy is going to revolutionize one feature of the treatment of the tuberculous, time only will tell. We can be assured that:

Calcium loss is the rule in tuberculosis.

Parathyroid therapy increases the blood calcium. Ergo:

Parathyroid therapy should be a reasonable addition to our treatment of tuberculosis. Or again:

Tuberculosis is really a form of ulceration —of the lungs, the bones, skin, throat. Parathyroid therapy has apparently cured ulcers elsewhere—of the legs, stomach, intestine and middle ear. Ergo:

Why not hope for similar results from parathyroid therapy in tuberculosis?

These suggestions are set forth in writing with knowledge that it will be said, by some that I am wrong. I have talked to literally hundreds regarding the various possibilities of parathyroid therapy—real and proved beyond peradventure and prospective, such as I submit here. Invariably the logic of the thing has been arresting.

Make a Clinical Test Fit

The next thing to do is, to put this idea into the melting pot, to test it in an extensive way. The fundamentals are sound enough. There can be no denying the facts in this statement. The suggestion is:

Parathyroid therapy is recommended as a means of assisting in the control of the conditions underlying tuberculosis by its influence through the regulation of conditions accompanying deficient blood calcium and its coincident healing effect upon ulceration.

Medical Inspection in the Seattle Public Schools

By IRA C. BROWN, Seattle, Washington

IN 1914, the board of school directors of Seattle School District No. 1 invited the writer to organize a health department for the district under an existing statute. Prior to this time, the school directors had employed three nurses who were under the direction of the health department of the city. This plan did not bring the results that school people had had in mind—hence the request.

Previous to accepting this position, an opportunity presented itself so that I was able to make a world's survey of child life and sanitation. Various countries were visited. In China, India, Egypt and southern Italy, only very little information was obtainable. The habits and life of these people are so different from our own that there is no comparison. In Japan, health conditions are better than in many of our states. It was in Europe that I was able to make comparisons and gain useful information.

In an extended observation the world over, on a great variety and mixture of people, some striking percentages presented themselves. For instance, before the war, we learned, 94 percent of the German male population were fit for military duty, 83 percent of the French were fit for military service and 73 percent of the English. From my own experience as an officer for many years in our own army, we found that but about one in eight who applied for enlistment could be accepted. Of course, this was not a fair percentage of the physical fitness of our young men, because the class of men applying for enlistment was not an average of our population; but we knew that the defects among our young men were very high, and the draft-board experiences in the late

war afford a silent proof of this fact.

Start With the Children

It is a matter for very serious consideration by all well-wishers for our national existence that the children be made as nearly perfect as possible, and the only place, it appears to me, that this can logically be done is in the public schools. This thought has been uppermost in our minds for many years. It is also a matter for serious thought, when we compare our figures of physical percentages, that the Germans had the most complete system in the world of caring for their children. France came next, England was doing little more than we were and, as the physical fitness of the adult population depends absolutely upon the care given the children, it behooves us all to get back of the movement for child welfare and push it vigorously.

In carrying this thought to its logical conclusion, Seattle school children are living witnesses for the excellence of this plan. When school closed last year, our attendance was nearly 97 percent and, while it would make an article of this nature too long to go into details, I might say that the condition of our children is due entirely to correcting all defects possible.

In Vienna, I absorbed the lesson that was intended to convey the thought that everyone between birth and fifteen years of age had tuberculosis. That is, it was fundamentally possible to have an active tuberculosis without further exposure. Naturally then, the thing to do was, to improve environmental conditions generally, particularly the food and hygiene and to remove all contributing influences such as carious teeth, septic tonsils, adenoid growths, and to undertake the active treatment of all children who showed the slightest enlargement of glands anywhere.

I believed then, and know it now, that iodine is some form would be the ideal treatment and that much could be accomplished in fortifying the child against debilitating influences.

Work Among Seattle School Children

To carry into effect our ideas, we have, at this time, twelve nurses in the field and one woman physician supervisor of nurses who also looks after the girls in the highschools. At the beginning of each school year, each child has an examination by the nurse who has been post-graduated in the work she has to do. A permanent record is made of the findings and, if a defect is found, an advisory card is sent to the parents informing them of the condition and recommending that they consult a physician, specialist, or dentist, as the case may be. This is followed by other notices until action is taken and the correction made. If the parents are too poor to have the corrections made, the children are sent to the school clinic where a volunteer staff of medical men cares for all those who have an entrance permission. For seven years, the writer conducted this clinic, but he was forced out of the work by Christian Science activities in the courts. The work, however, is going on the same as before under the management of the Junior Red Cross.

Goiter and Iodine

In 1914, out of a school population of 31,166, we found 9,349 with goiters and one might say that most of the children had several enlarged cervical glands. As previously stated, this condition called for iodine, and it was so ordered. In looking about for the most convenient and economical form of iodine to administer, I chose calcidin, an iodine preparation put out by The Abbott Laboratories. I did this because previous experience had shown that there was less systemic effect produced by calcidin than by any other preparation of iodine that we were familiar with. I have always given this remedy in 1-grain doses, from kindergarten to highschool age, in fact any age, increasing or decreasing the frequency of the doses as seemed necessary. I am giving 1 grain of calcidin every hour to small children with enlarged and inflamed glands, continuing until the inflammation is under control or the case goes on to suppuration, when the gland is opened and drained.

I have never been in sympathy with the practice of operating on these enlarged glands and only do so as a last resort and as here indicated.

To children presenting themselves with "simple goiter", 6 grains of calcidin are given per day, 2 grains after meals, and gradually diminishing to 1 grain after each meal. I have observed that it is best to have the tonsils removed, together with adenoids; and carious teeth should be either extracted or repaired before any treatment for goiter is undertaken. Goiter that resists any treatments will respond quickly when these corrections are made. I do not permit any strenuous exercise in goiter cases, advise against worry and exictement, and order a meat-free diet.

Results Prove Justice of Contention

While in Berne, Switzerland, I was greatly impressed with the work of the elder Kocher, so much so that, in our early work here, when

cases of goiter were sent to the family physician and they returned with the statement "Pay no attention to it, the child will outgrow it," I took quite another view and prescribed calcidin for it. At the time, I was vigorously criticized, and not altogether good-naturedly. However, I have persisted in our health program and am still continuing as I started. The following will give you an idea of the results obtained in goiter:

Year	Average Attendance	Number of goiters	Percent
1915	33,389	8,347	25
1916	33,555	6,399	19.07
1917	32,602	3,386	10.38
1918	33,905	3,328	9.81
1919	36,897	3,070	8.37
1920	39,715	3,375	8.49
1921	41,496	3,663	8.83
1922	41,893	3,847	9.18
1923	43,578	3,475	7.97

Other conditions found among school children have been corrected in as gratifying proportions. There are but few of these conditions where calcidin is not indicated and, if given liberally and persistently, not only will goiter be prevented and cured, but gland enlargements in general will disappear.

In addition to the iodine, induce the child to drink as nearly a quart of milk a day as possible.

810 Dexter Avenue.

Calcium Sulphide and Germ Diseases

By V. E. LAWRENCE, Ottawa, Kansas

WHEN riding with a skillful physician, the year after my graduation, he said to me: "Last year I was tempted to forsake the practice of medicine", and on my inquiry as to his reason, he replied: "Last year, I lost seventeen cases of scarlet fever within one week. In fact, the usual treatment is useless in malignant cases."

This statement was a shock to me and not easily forgotten. Years ago, when giving this disease some special study, it occurred to me that it, as well as smallpox and infantile paralysis, must be germ diseases. At that time, this fact had not been verified. After some consideration, I concluded that in my next dangerous case of scarlet fever I would not depend upon the treatment advised by the textbooks, but, in its stead, would prescribe the well-known but little used germicide, *calcium sulphide*.

It was probably some three years after when, one day, at 4 P. M., I was called to the bedside of a little patient aged about three years. Her brother was just convalescent from a mild attack of the disease. I there found a case with symptoms sufficiently alarming, in my opinion, to justify me in believing that the child could not survive the tardy effects of the usual remedies. The eruption covered the entire surface and was of scarlet redness; the throat swollen, pulse 200 and temperature in the armpit 107°, which, of course, meant 108° per rectum. Death was imminent within 20 hours, and I had but little hope that anything gave the child even a slight chance of improvement. However, I dispensed a dozen 1-grain calcium sulphide tablets, chocolate-coated, with orders to give one hourly. I did not say that I would return in the morning, because I believed that, before that time, the telephone would inform me of the child's death. Receiving no message, I called at 8 A. M. It was an unexpected and agreeable surprise to find all the symptoms much less severe. On my evening call, *all symptoms were absent* and the child entirely recovered. No other remedy was used. I dismissed the patient and made no more calls.

There being at the time an epidemic of scarlet fever in Chicago, I reported this case and its treatment to CLINICAL MEDICINE and it appeared at that time.

Some two or three years after, a medical missionary[1] wrote from some foreign field that scarlet fever became epidemic in his large hospital and that he eradicated it by the use of calcium sulphide, within about 10 days.

Some weeks ago, another child, almost duplicating the former case, responded to the same treatment. Upon my second call, 18 hours after the first, all rash was absent, the temperature normal; and, on the next morning, the child was without any symptoms whatever. With her, the desquamation was somewhat tardy and the house was not fumigated until the 25th day. In the meantime, five other children were quarantined within the same rooms. They were given the calcium sulphide tablets, two every two to three hours. Only two of them contracted the symptoms of

[1]Dr. Clarence D. Ussher (Van, Turkey); *Med. Record*, 1909, vol. 76, Sept. 25, p. 508.

the disease, and they with only slight sore throat and a very moderate fever. A few tablets promptly caused all symptoms of the disease to disappear.

Some eight years ago, I saw, with the Board of Health physician, at the local pest-house, the only almost completely confluent case of smallpox I had ever seen. The face was absolutely covered. Both, the doctor and myself expressed the opinion that the patient had scarcely a chance of recovery. At my suggestion, calcium sulphide was freely administered, and the patient made a not very tardy recovery.

Readers of CLINICAL MEDICINE may recall that our good old correspondent, the late Dr. Robert Gray, who for years sent in his most useful and interesting articles from old Mexico, within the last two years reported that an epidemic of smallpox among the native Mexicans was, by calcium sulphide changed from an almost 100 percent of fatalities into a 100 percent of recoveries and that, when the drug was taken before the eruption occurred, this always failed to appear. In an exposed case of mine, the disease was aborted without eruption.

In Infantile Paralysis

And, now, as to that most of all to be dreaded disease—infantile paralysis. Believing that it, too, was a germ disease, I sent to my daughter, then living near New York City, some six years ago, when the disease was epidemic in the great city, some of the tablets to be given her daughter as a preventive, and at the same time wrote Dr. Taylor, editor of *The Medical World* (Philadelphia) a request that he publish an editorial suggesting that the doctors prescribe the drug, in the hope that it might reduce the alarming fatality then prevalent.

Instead of writing the editorial, he published my letter with name and address. The following issue contained an article written by a Florida physician, stating that, several years prior to reading my article, he had used the drug in two cases apparently entirely beyond hope, which were followed by recovery. Also two others not so seriously ill had recovered.

Permit me here to emphasize the statement that *the virtue of calcium sulphide consists in its volatile odor* and that only tablets made with a coating, such as will prevent its escape, are of any potency. When, upon removal of the cork of the bottle containing the tablets, the odor is detectable in more than a slight degree, the tablets are useless. For years past, I have used those made by The Abbott Laboratories, because they meet the requirements. Also allow me to say that the drug can be used with entire safety and efficacy in any germicidal disease, whether acute or chronic. At most, it will do not more than cause slight nausea or some activity of the bowel. When in doubt in dangerous diseases, administer it frequently.

Quinine in Pneumonia

It is now some 40 years since the late Prof. A. B. Palmer, then for 35 years dean of the University of Michigan, stated to his senior classes, that quinine in large doses, quickly aborted pneumonia.

Some ten years ago, the faculty of Johns Hopkins University published the statement that its laboratories had discovered a previously unknown active principle in quinine, which was quickly destructive to pneumococci. For 40 years, I have prescribed quinine in every case of pneumonia, with scarcely a failure to abort the disease in from three to five days. Following Prof. Palmer's advice, I give it in doses of about 10 grains every two to three hours until from 40 to 60 grains are given; also, opiates as needed for pain, and a laxative. To children, however young, the remedies are given in corresponding doses as to age. This may be repeated once or twice after 24 hours. I give the same treatment even if the patient is not seen until well into the second stage of the disease. [Read the article by Dr. S. Solis Cohen, CLIN. MED., Feb., 1923, p. 93.—ED.]

Experience has shown that the patient exhibits no or very slight symptoms of cinchonism, the probable reason being that the drug and the pneumococci destroy each other. The patient may not respond actively to the drug within two to three days, after which, however, the symptoms of the disease quickly ameliorate and the patient enters into convalescence.

Calcium Iodized

I cannot close this article without reminding the reader that, in the dark iodide of lime, we have an absolute specific for that most fatal of all childhood diseases—membranous croup. It is now some thirty years since I first wrote of its reliability. Continued experience has confirmed my claims.

The Treatment of Spastic States of Smooth Muscles

With Combinations of Camphor and Papaverine

By EDWARD AHLSWEDE, Buffalo, New York, and WERNER BUSCH, Hamburg, Germany

A REMEDY that is generally known and constantly employed for overcoming spastic conditions of smooth muscles is camphor. Its good effects, if given in high doses in the spastic contraction of the coronary arteries, is generally acknowledged. Not so well known is this relaxing action of camphor in those cases of hypertonia that depend upon spastic contractions of the smooth muscular fibers of the vessels. Frequently, heroic doses are not administered at the critical moment when there exists a decided elevation of the blood tension and the attending physician is afraid to raise it still further by stimulating the cardiac action. Still, it is generally known that, of all cardiants, camphor may be given in the largest doses and that only in exceptional cases does it give rise to toxic effects.

A difficulty in the persistent employment of camphor lay, until a few years ago, in the necessity to inject the camphor into the subcutaneous cellular tissue or into the circulation in the form of camphorated oil or ether. In recent years, this difficulty has been obviated by the introduction of preparations of camphor that may be taken internally and, therefore, permit a continued employment of the drug. All these camphor preparations for internal use are produced by combining the camphor with bile acids. Among them, the choleic acid is particularly valuable for combinations that are therapeutically of service. According to the fundamental investigations of Wieland, numerous organic compounds can form combinations with choleic acid which therapeutically behave in the same manner as simpler combinations and, moreover, have a great advantage in that they do not irritate the intestinal mucous membrane. A further advantage is found in the gentle and slow absorption from the intestinal tract. Toxic actions can be avoided with certainty. The slow absorption gives assurance that the body is kept lastingly under the influence of the camphor.

Papaverine an Adjuvant to Camphor

However, there is the disadvantage attending every camphor medication, that the effect of internal camphor administration does not appear with sufficient promptness; for instance, in urgent cases of coronary sclerosis. In such cases, it is necessary to administer a remedy with more rapid action, either simultaneously or at first. In coronary sclerosis, we think in this connection only of papaverine, the spasmolytic action of which usually exceeds that of camphor materially. Among the various preparations, the hydrochloride or the sulphate have proved most effective, because they are convenient, water-soluble and, hence, can be injected.

As a matter of fact, there are no spasms of smooth muscular fibers of any kind that can not be influenced favorably by papaverine. Its preparations have proved very effective in spasms in the territory of the digestive tract, of the gall bladder, also of the bronchial muscular fibers, the urinary bladder, the uterus, and especially in those forms of hypertonia already referred to that depend on spastic contractions of the smooth muscular fibers of the blood vessels.

While, hitherto, camphor preparations and papaverine were almost always given separately, it has been determined experimentally by the careful investigations of Fröhlich and Pollak that a combination of camphor and papaverine produces a marked strengthening of the effect. Such a combination preparation is of special advantage, for the reason that not only is the effect increased but it also is commonly more prompt than when the constituents are given separately. So far, the preparation known as Perichol has proved to be of most advantage.

A Combination of Both

According to our observations, this preparation often produced surprising effects, especially in cases where severe attacks of coronary sclerosis are crowded. The remedy is very valuable in the nervous form of angina pectoris, the socalled pseudo form, which, nevertheless, frequently leads to death. In this form of angina pectoris, in which there exists a violent spasm of the coronary arteries, Perichol is frequently the only effective remedy. Nevertheless, it will be well to exercise caution in administering papaverine in doses that are too frequent or too long-continued.

It has been most serviceable to proceed gradually, in such a manner that, in serious cases of angina pectoris, the attempt is made

to lessen the spasm by means of papaverine. If this is successful, the combination of camphor and papaverine (Perichol) is administered and is followed by the doses of camphor alone as soon as the attacks are no longer crowded or (in case of purely neurogenetic angina pectoris) when they have disappeared.

It is to be insisted upon that the treatment here suggested is by no means the only possible method and that old-established remedies should not be neglected entirely. Mention should be made of morphine which, after all, can not be dispensed with in any case of angina pectoris. Moreover, we wish to point out that a combination of a suitable morphine derivative with papaverine and camphor appears definitely indicated, and it is advisable to produce such preparations that contain combinations of these three pharmaceutic substances in various dosages.

It is evident that angina pectoris depending upon extensive arteriosclerosis can not be treated by means of the remedies under discussion. However, we have observed that, in all cases of coronary sclerosis, spastic contractions of the vascular muscular fibers are concerned and, consequently, in advanced cases at least, a diminution of the intolerable attacks may be brought about. In subacute forms of coronary sclerosis in which the attacks have not reached their full development, a protracted gentle internal administration of camphor will prevent the development of severe vascular occlusions, aneurysms, and so forth.

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[*Concluded from page 858*]

scribe anti-Volstead substances.

"The solemn farce of Volsteadism tempered by millions of doctors' prescriptions and other devices is not at all edifying. The Volstead act should be so modified by Congress under the limitations of the eighteenth amendment that enforcement of the measure may be made truly effective."

It is, of course, an open secret that only a very small proportion of all those millions of prescriptions for whisky are issued actually as urgent and necessary remedies. A great many are written because the doctor is a good fellow and is pestered by his friends for the favor; because the doctor may want a drink himself and wants to treat his friends. Altogether, it is not a state of affairs of which we, as a profession, can be proud.

I am informed credibly that there are numerous physicians in Chicago, and, no doubt, all over the country, who make a nice little income writing these prescriptions which, to all intents and purposes, are illegal. Strangely enough, physicians are approached and insistently urged by their friends who ought to know better than to cause them to break the law. I have been asked by more than one lawyer, members of that profession that should, first and foremost, insist upon enforcement of the law, to write such prescriptions. It is this point mainly that had deterred me, from the beginning, from taking out a license, so that I can truthfully say that I have none and can not write prescriptions.

There is a peculiar psychology in this and it is unfortunate that we, not only physicians, but all of us, are such arrant moral cowards. The physician who is licensed to issue prescriptions for alcoholic beverages and who is asked for them by his friends or by others merely for purposes of conviviality, not for bona fide use in sickness, is, nine times out of ten, too cowardly to refuse. He is afraid of losing his name of being a good fellow. I should, if I had a license; I confess. We are actually afraid to take a high moral tone and refrain from writing that kind of prescription, for the legitimate reason, namely that it would be against the law and, therefore, criminal.

The fact that one may not approve of the provisions of the Volstead act, however greatly one may be in sympathy with the Eighteenth Amendment itself, does not cut any ice at all. The Volstead act is in force. Until it is repealed or modified, it should be obeyed. For a physician to issue a prescription for whisky or other spirituous beverage, other than for a definite case of illness where it is clearly indicated, is, to commit a criminal act. For any man, or woman for that matter, to ask a physician to issue such a prescription, means to be *particeps criminis* and is, moreover, an insult and an affront. Physicians should resent these requests just as they would take exception to appeals to induce illegal abortion.

I hold not brief for the Volstead act. However, as long as it is in force, I mean to obey it, however irksome it may be. I admit that physicians are put into a very disagreeable

[*Concluded on page 922.*]

Surgical Seminar

Conducted by GUSTAVUS M. BLECH.

Dr. Israel's Case

IT will be recalled by the regular readers of the Seminar that, in the October (1923) issue, we published a communication by Dr. I. P. Israel of Colina, Mexico, in which our correspondent, apparently distressed about the fatal outcome of a case, sought our opinion regarding the manner in which he had managed it.

Recapitulation. The patient, a male Mexican, aged 37, was bitten by a poisonous insect about the middle of the right shoulder. Three days later, the patient consulted Dr. Israel. Examination revealed some edema on the posterior surface of the injured shoulder, with a black spot, the size of a dollar, in the center of which was a small pustule containing a yellowish serum.

Hot poultices with "antiphlogistine" were applied the next day. At the same time, microscopic examination of the pus showed many streptococci.

Four days later, Van Cott's combined vaccine arrived, and the first dose was administered. Meanwhile, the antiphlogistine applications were stopped and replaced by hot 2-percent solution of chlorazene. Salines were administered to produce intestinal evacuation. Three days later, free incisions evacuated about one pint of pus and, twelve hours later, the wound showed apparently diphtheritic complication. Another incision, made four days later somewhat below the first one, yielded more pus and became covered with diphtheritic membranes eight hours after the little operation.

Six days later, pus was evacuated from the muscle-sheath by a third incision. Five days later, the patient plainly showed exhaustion from sepsis inspite of the treatment as outlined, stimulation, etc.

During the two weeks of the patient's illness, five physicians had cooperated with Dr. Israel. On the last day, a Mexican consultant denied diphtheria of the wound, criticized the chlorazene treatment and recommended iodoform instead. Exitus lethalis the same day.

After the publication of the case, I tersely remarked that the consultant was wrong, that his treatment was absurd, that heroic incisions and the administration of antistreptococcus serum were my principal remedies. I also remarked that I use weak bichloride solution externally and that chlorazene is the remedy *par excellence* after the acute phenomena have subsided.

When the printed issue reached me, I found that our genial managing editor had made use of his autocratic prerogatives to squeeze into the auditorium his particular pet, calcium sulphide, until the atmosphere became surcharged with the aroma of rotten eggs. It is lucky that Doctor Achard did not go beyond that; for, after all, my intention was to make only a preliminary reply to Doctor Israel's query and leave the detailed discussion to our contributors.

I am glad to be able to publish today two interesting discussions.

General Geo. Acheson, Kingston, N. B., Canada

In discussing Dr. Israel's case, as described in the October number, the chief points of interest are, the treatment and prognosis. The diagnosis presents no difficulty—a virulent streptococcus infection.

Fortunately, cases of septicemia and pyemia are not so frequent now as they were formerly, especially before the advent of antisepsis, following the teachings of Pasteur and Lister. But, withal, one not infrequently comes across an acute streptococcus infection, such as the one described. It is usually due to some slight, apparently negligible trauma, by which the germ gains access to tissues which are not protected by an immunizing lymph; in other words, a virulent seed is planted in a receptive soil, which does not contain and is incapable of developing the necessary antidote. Such cases are among the most serious the medical man has to combat and, in my experience, both in my own practice and in that of many of my colleagues, a very high percentage of them run their fatal course, unimpeded by any form of treatment.

Somewhere between 25 and 30 years ago, I recall having had such a case under my care,

in which the focus of infection was at the site of a slight operation on the inferior turbinate, performed by one of our best rhinologists. The first indication of trouble was in the inner ear on the same side; then a painful, somewhat fluctuating swelling on the point of the opposite shoulder. When this was incised, the only discharge was a thin, watery serum, which proved to be a pure streptococcus culture. Then followed, at various intervals, abscesses in almost every cellular tissue of the body so that, at one time or another, literally quarts of pus were evacuated. The most up-to-date treatment of the time was faithfully pursued, and the patient had the benefit of some of the best medical, surgical and nursing care in Canada. But, with various ups and downs, the disease progressed for six months to its fatal issue.

Another case, about ten years later, did not run such a protracted course, taking only between three and four weeks. Here, the point of entrance was on the back of the left hand, where the skin was just broken from a light blow with an ordinary hammer. Signs of infection rapidly developed, some local inflammation and lymphangitis extending up the arms to the axilla, where one or two swollen glands were to be felt within 18 hours after the injury. The gravity of the condition was at once recognized and active measures taken. No incision in the hand ever seemed to be called for; indeed, the infection appeared to have left there entirely. Multiple abscesses, however, developed in the arm, along the left side of the thorax and in both lower limbs. Fifteen intramuscular injections of antistreptococcus serum were given, beginning on the second day of the illness. Abscesses, as they appeared, were freely opened and the edges of the wounds soon became covered with a gray membrane. At first, I employed mercuric chloride dressings; then a solution of formalin was used; all to no avail; the streptococci had the upper hand.

I remember another case, about the same time, when both, the patient and I, were fortunate enough to arrest the process, or at least confine it to a limited area, in which an incision gave exit to the pus and permitted free drainage and lavage. This case also arose from a very slight abrasion on one of the fingers—the resulting abscess pointing behind the left scapula. I recollect that the severe pain in the left side of the chest and down the left arm was at first thought to be due to angina pectoris.

These cases were all streptococcus infections and, in my opinion, when this particular germ once gains access to the blood stream, all treatment is practically futile, unless the resistance of the patient is developed to a high degree. Of course, I would not recommend a *laisser faire* attitude, and I believe that we should do everything in our power to sustain and build up the patient's natural resistance, at the same time, combatting the enemy with every known weapon.

With Dr. Israel's treatment of his patient, little fault can be found. My only criticism would be the loss of valuable time at first in fiddling with antiphlogistine; though, evidently, he did not long continue this useless application, but substituted for it the much more efficient chlorazene.

The Editor's suggestion regarding the administration of calcium sulphide to saturation is, I think, a good one. I have proved the value of this remedy more than once as a deterrent to the activity of pyogenic bacteria. **Dr. A. J. Mendelsohn, Bridgeport, Conn.,** whom we greet as a newcomer to the Seminar, writes:

I presume, a frank discussion of the treatment is in order. There are two outstanding omissions in the line of treatment resorted to by Dr. Israel, namely: first, the failure on his part to make a radical incision or incisions earlier, and, second, the failure to administer diphtheria antitoxin when there was even the slightest suspicion of diphtheria.

The local area, the site of the primary injury, should have been incised deeply and extensively immediately after the first consultation. Dakin's catheters should have been introduced into the wound, both deeply and superficially, the wound irrigated with Dakin's solution every two hours and dressed twice daily.

The patient, in all probability, had a pus pocket in one of the muscles of the back. Whether or not that pocket could have been reached with the scalpel, is a question not easily answered without a personal examination of each individual case.

Editorial Comment

It is quite difficult for me to add anything of particular interest, as both correspondents have said about all there could be said on the subject. However, without knowing the circumstances under which Dr. Israel has to practice his profession in a country torn by internal strife and in a community quite far from industrial and commercial centers, I would not venture too severe a criticism. One cannot very well charge a fellow with lack of

culture when he appears at a formal gathering in ordinary garb, without knowing why he did not appear in the conventional dress.

I take it that, seeing the edema and other manifestation of focal infection and having a jar of antiphlogistine on hand, as the manufacturers have been rather liberal in the distribution of full-size packages, this proved the first handy thing to start with. Again it is not so easy to make a diagnosis of streptococcus infection from a mere inspection of an infection-focus, no matter what the appearance of the primary wound may be, at least not in the majority of the cases. Where the symptoms are classic: chills, fever, and so on, the difficulty is not great and, even if the diagnosis of streptococcus infection should eventually prove wrong, it is better to err on the safe side.

I have not been as lucky as my distinguished comrade, General Acheson. In a general surgical practice extending over a period of more than thirty years, I have seen a goodly number of undisputed cases of streptococcus infection. Heaven knows, I am far from being one of those pompous, dignified, conservative medicos who are not happy unless they sit at the bedside head resting on the palm of the right hand, with elbow on the knee and after much thinking decide on some conservative measure as the one least likely to cause Mrs. Grundy to criticize them for having done something desperate which was the direct cause of death, and, as I have hinted in my preliminary remark in the October issue, I waste no time with idle theories and speculations in cases of this class; and yet, I have not a single cure to my credit. My patients died, sooner or later, no matter what I did.

I have seen cases which were so foudroyant that even the thought of surgical intervention seemed ridiculous, almost like a baby seeing a neighboring building afire and fetching a spoon of water. I have amputated arms and legs in the hope of staving off the man with the scythe, only to be brushed aside by him as if I were the shadow and not he, the grim reaper. I have seen a brilliant young woman pay with her life for merely handling a magazine, a leaf edge having scratched her finger, and she had six surgeons at her bedside from the first appearance of the first evidence of infection. I have seen a workman merely fall off from a few steps from an ordinary step-ladder, abrade his knee and, a few days later, the infection spread until the pyemic process attacked his seat of reason and transformed him into an unconscious, muttering animal, passing through a stage of coma against which we know that nothing can prevail.

Against this virulent type of bacterial invasion, I possibly could point with pride to many pages in my note book, containing the records of patients with infections, whom I have succeeded in curing; but, whenever I have had such a case, I said to myself that that was not a case of virulent streptococcus infection but of a mixed infection—a serious but not violent sepsis.

I am not so sure that Dr. Israel had a pure case of streptococcus infection. His description of the evacuation of large quantities of pus and of diphtheritic membranes of the incised wounds do not tally with what I would call a pure streptococcus pyemia. In the latter type, we hardly see any pus at all but, generally, blood-tinged serum, the characteristics of which, once seen, are never forgotten. It makes you think of a firebrand running along rapidly in his anxiety to set the whole town on fire in the briefest possible time. There seems no time for the development of pus and, what pus there is, lacks the characteristics of what the old timers came to term *pus bonum et laudabile*. I do not agree with Dr. Mendelsohn that diphtheria antitoxin was absolutely indicated, or that its non-administration was a technical error. Many of these membranes are meaningless in wounds running a mild course and, even in those running a severe course, the bacteriologic proof for diphtheria infection is seldom established.

I have no right to discuss the administration of calcium sulphide as I have no experience with it in this class of cases, but it seems to me on purely theoretic grounds that it is worth a trial, since it can do no harm. I know from the literature that it is valuable in mild infections, but I find no record in the literature that it can be charged with responsibility for the cure of a case of virulent streptococcus infection.

Dakin's method of wound treatment has many admirers. I have seen some wonderful results from its use during the late unpleasantness in France and I have also seen some wonderful failures. I believe in simplicity and, if I should ever come into a situation when hospital facilities are lacking and I have to get along with simple measures, my conscience will not bother me simply because I have no one to irrigate a wound or wounds through Dakin's glass and rubber apparatus. I, too, am frequently called into consultation by colleagues practicing in hamlets, miles away from hospital facilities. When I get a letter or telegram advising me what the nature

of the case is, I go with my assistant and we carry along enough surgical equipment not only to perform any possible operation but to provide the physician in charge with the necessary materials to enable him to carry out the proper postoperative cure. I have no Dakin apparatus in my portable kit.

Mind, I am not holding a brief defending Dr. Israel. What faults there were in his treatment, have been clearly laid down by General Acheson, referring to the uselessness of antiphlogistine in such a serious case, and, by Dr. Mendelsohn's reference to the rather late incision. But, to say that the case was not properly managed or that the lethal issue of the case could have been averted, means to say something that is not even probable. Certainly, I had a right to criticize the Mexican consultant for his advocacy of iodoform. If he is a believer in the efficacy of iodine in such cases, the use of diluted tincture of iodine is at least rational. Iodoform must first be sterilized to be useable. How much of the iodine content is lost through heat sterilization, I do not know. As for the liberation of iodine after contact with diseased tissue—well, I used to live in Missouri some time since, and I still retain the famous Missouri quality of demanding to be shown. On the other hand, his denial of wound diphtheria has justification, with this proviso that he should have looked upon the wounds as giving evidence of a mixed infection. That, in my opinion, was what Dr. Israel's case was. For a moment, the fact that the patient was bitten by a poisonous insect suggested the possibility of poisoning of the type we encounter from snake bites, but the whole picture is so distinctly surgical in character, that it was not the insect but the carrying of bacteria into the little wound that can be accepted as the *causa causans* with absolute certainty.

Dr. Israel is cordially invited to close the discussion.

Surgical Error No. 2

Dr. L. (Nebraska) writes:

You will recall that, last May, I was accorded by you the opportunity to see you operate. During my three-day stay with you, I saw you perform an appendectomy, a cholecystectomy and several other operations, notably herniotomy. I am taking the liberty of asking you to give me the reasons why you performed the appendectomy without more than a skin incision of what I thought was barely an inch; why you did the very opposite in the gall-stone case, as your incision, if I remember well, extended in a sort of curve from the xiphoid cartilage to way down into the abdomen under the liver margin; and finally why, in making the incision for an inguinal hernia, you sweep the knife in almost a semicircle in the direction of the median line.

I also desire to ask you wherein I failed or erred in the following case.

Mrs. N. B., aged 51, very stout, had suffered from chills, fever, colicky pains radiating from the right upper abdomen to the right shoulder blade. At her last attack, she became somewhat jaundiced. The diagnosis of gall stones seemed certain and was demonstrated correct by operation.

I operated, assisted by Dr. G. and Dr. J. (anesthetist), June 9. Incision was along the right costal arch, an inch below, oblique, and about three inches in length. Step by step, the tissues were divided until the peritoneum was carefully opened by a nick with the knife and the incision cautiously enlarged by scissors. There was a good deal of bleeding, but it was readily controlled by artery forceps.

The gall bladder was easily located as it presented itself in the wound. It was very hard to the touch in the upper part, but I found no evidence of stone when my finger palpated the cystic duct. I nicked the base of the gall bladder at the junction of the liver, protected the area with hot gauze compresses and dissected off the bladder. Ligated the duct with linen thread, and amputated. I closed the abdomen without drainage. Before doing so, I explored with the index and middle fingers the duodenum and swept them in every direction, but encountered no evidence of tumor or anything abnormal.

The patient made an uneventful recovery and left the hospital after twenty days.

Two weeks later, the patient was taken ill with the same symptoms she had before I operated. I gave her an opiate which relieved her at once. The symptoms returned two days later and there was also some icterus. A neighboring physician was called in and he told the patient, as far as I could learn, that I had produced adhesions which caused all the symptoms. I learned that she had a good deal of vomiting that day and the physician said that the stomach was being pulled by the adhesions. The doctor and I are not on good terms, but I did learn that she was taken to a hospital in Omaha, there was reoperated, that they drained her but that she died four hours after the operation from shock.

Can you give me an opinion from what I

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The General Practitioner

Talks About Professional and Personal Problems
Conducted by WM. RITTENHOUSE.

Why Does Crime Prevail?

AT the recent Convention of the American Bar Association, in Minneapolis, a report was presented which deserves the serious consideration, not only of the legal fraternity, but of every citizen of this country. It compares law enforcement in England and France with its enforcement in America. It draws the conclusion that the system in the United States lacks the three great essentials of successful enforcement: namely, *celerity, certainty,* and *finality.*

It is public opinion which in the last analysis decides whether our civilization shall advance or retrograde, and public opinion is the summing up of the results of reflection on great questions by our influential citizens. There is much propaganda abroad based on fallacies regarding various subjects, and on none more so than the subject of dealing with crime. We have a class of citizens, and particularly of women, whose sympathies have overriden their judgment or, rather, whose sympathies have been misplaced by giving them almost entirely to the criminal instead of to his victim, thus devoting less attention to the welfare of society in general than to the welfare of a small fraction of it, and that fraction the most evil and worthless. It is therefor that I remark that the Bar Association report should receive the serious consideration of every thinking man and woman.

Lack of *celerity* in bringing criminals to trial has long been a source of embarrassment to justice, and a corresponding advantage to the criminal. All our most notorious criminals have a strong pull in politics and, as soon as one is arrested, he at once puts every influence at work to put off the trial as long as possible. This gives time to his lawyers to set in motion every possible wheel for the defeat of justice. It affords time to bribe witnesses or to get them out of town. Even witnesses who are incorruptible or who cannot be got out of the way, are merely human and have fallible memories. When months or years elapse between the crime and the trial, a perfectly sincere witness may feel less sure about important details, as compared with the clear recollection which he would have if the trial were held promptly. Even the death of an important witness not infrequently occurs when the delay is long.

Secret threats are constantly resorted to for the purpose of intimidating a witness who lacks backbone. An anonymous letter or telephone message threatening harm to the witness, his family, or his property, will, unless he is a person of strong moral fiber, make him think seriously whether it is the part of wisdom to take such a risk, and the longer time he has to think it over, the more likely he is to weaken. So every phase of the matter impels the criminal to seek delay.

The report of the Bar Association committee shows that, in Great Britain and France, criminals are brought to trial much more promptly than in this country, simply because the judges there will not grant a continuance on the slightest pretext as is constantly done here.

In making application for a continuance or for a change of venue, the criminal's lawyer often makes use of the argument that public indignation would make a fair trial impossible. What an impudent assertion! This hot indignation of the public is a much more wholesome frame of mind than the easy-going indifference which is bred by observing the frequency of crime and the hopelessness of punishing it.

Certainty of punishment is perhaps the most powerful check on crime that can be devised. It is even more effective than *severity.* Criminals are natural gamblers. They take chances, trusting to luck. When they see that the criminal is not caught, in a considerable percentage of cases, and that, of those that are caught, another large percentage goes free, either through political judges, corrupt or ignorant juries, or the pardoning power in the

hands of a crooked governor, they reason that their chance of escape is so good that they are willing to take the risk.

The *finality* of justice is another point on which we are notoriously weak. The conviction of a criminal ought to be final; but it seldom is. If he has been caught, brought to trial, and, after a long and expensive struggle, is finally convicted by a jury, then, we may say, the fight has just begun. A motion for a new trial has become a matter of routine. Whether there is any justification for one, does not matter; the criminal's attorneys can always find some excuse, however trivial, for such a motion, and it is too readily granted. That will mean more delay, perhaps of months, with a corresponding letting down of enthusiasm on the part of the prosecution. If a new trial is refused, there still remains an appeal to the higher courts, and finally the pardoning power, a privilege that has been most boldly abused by the political hacks who have succeeded in getting into the governor's chair. Many good citizens think that the pardoning power should be abolished, because it offers such a field for the activities of the sentimentalists who have so much pity for the poor criminal that they have none left for his victims. These well-meaning mischief-makers are responsible for much of the laxness seen in the control of crime. A few officials of penal institutions are also afflicted with this weakness.

The situation is very discouraging to those police officials who are trying to do their duty. They say, "What's the use? We risk our lives to catch criminals, and, after they are caught and convicted, our work is liable to be nullified by the influence of politics or by the arguments of a lot of long-haired men and short-haired women. No wonder we are discouraged."

The arguments used by these socalled reformers (they don't really reform anything) are of the flimsiest character and ignore the most self-evident facts. One well-known attorney of this city, who is generally found on the defensive side when prominent criminals are on trial, has frequently made the assertion that punishment does not prevent crime, a statement utterly at variance with the facts. If punishment is swift and sure, its effect is always apparent, as is plainly shown by statistics.

Another class who help to frustrate justice consists of those well-meaning but impracticable people who regard criminals as sick persons to be pitied and restored to health; meanwhile, the criminal laughs in his sleeve.

A few years ago, a young anarchist went to the home of an ex-chief of police in this city and attempted to assassinate him. The murderous attack would probably have been successful, had not the chief's son come to the aid of his father. Between them, they killed the would-be murderer—a clear case of self-defense. A few days after, the public was surprised and disgusted to read in the papers that the head of a prominent social settlement had expressed sympathy for the anarchist and criticized the officer for killing the "poor boy".

The report of the Bar Committee regards such misplaced sympathy as the greatest obstacle to the control of crime.

The report states that, in the year 1921, the Dominion of Canada had 57 murders; Chicago, including Cook County, with a population one third that of Canada had 212.

In 1922, there were in London 17 murders, and not one of these crimes remained unsolved. London's population is about four and a half million.

In 1921, there were 260 murders in New York in a population of ten million. The same year, Chicago had 212 in a population of about three million.

If we had the same certainty of bringing to light the authors of crime as exists in France or in the British Empire, we should not see such a vast disproportion between the number of murders in this country as compared with other countries.

Solanum Nigrum—A New Fruit

If, as Dean Swift remarked, the man who makes two blades of grass to grow where but one grew before, is a public benefactor, then he who causes two pies to be baked where only one was baked before, might also be called a benefactor, provided the pies are nourishing and wholesome.

Now, it appears that some unknown benefactor of the race, somewhere in a rural county of the state of New York, has been following the example of Burbank by developing a new fruit; or, perhaps, to put it more correctly, developing an old fruit that was valueless into a new form that is not only valuable but nourishing and delicious.

This is quite in keeping with the experience of the past. Most of our food plants—grains and fruits—were, in their wild state small, tasteless, bitter or even poisonous. But, cultivation under the gardener's art has changed

They Surely Are Appetizing!

them in size, flavor, food value and general usefulness until they have become the bountiful gifts of nature for our nourishment and delectation.

Wheat, for instance, which is now the almost universal source of "the staff of life", was developed from a wild grass, small, and apparently insignificant. Our splendid apples —Spitzenbergs, Greenings, and a host of other varieties—have been developed by horticultural science from the little, stunted, wild crab-apple. The wild rose of the wayside hedge is the progenitor, under the gardener's skill, of the American Beauty, almost rivalling a cabbage in size. So the luscious egg-plum and the green-gage point back to a humble ancestry in the wild plum. The same thing can be said of our cherries, peaches, apricots, pears, etc. They all have a history of development from some insignificant wild fruit to the wholesome and delicious luxuries of our gardens and orchards.

The fruit to which I referred above is the berry of the wild nightshade, popularly known as Deadly Nightshade, of which the botanical name is *Solanum Nigrum*. It has the popular reputation of being poisonous; but, whether this is a fact as regards the wild plant or is merely one of those popular beliefs that are handed down from generation to generation, I do not know. Many plants have had that reputation of being poisonous, and better knowledge has dispelled the erroneous idea. I can remember when the tomato was considered poisonous and was only cultivated because of its bright color. It was customary to place several upon the mantel shelf or similar place as ornaments. They were known by the name of "love apples."

Now, as I said, I do not know whether the berry of the wild nightshade is really poisonous, and I would not care to settle the question by experiment on my own person. But it is certainly true that the cultivated berry which has been developed from it is quite wholesome and free from poison. The wild berry is eaten by birds, apparently without harm, but this is no proof that it would be harmless to the human species. There are other instances of birds being able to eat substances that would be noxious to other animals or to human beings. However, these cultivated berries of *Solanum* have been so extensively eaten that their wholesomeness is thoroughly established. I, myself, ate them daily for two weeks.

The wild berry is small and black, about as large as a small pea. The cultivated fruit is also black, shiny, and very firm. It is as large as a small cherry or a small Concord grape. It is not good to eat raw; but, if cooked, crushed into a pulp, and properly sweetened, it has a rich, black juice and a delicious flavor that makes it an excellent fruit for pie. It is so firm that, if baked in a pie without crushing it, the sugar will not

properly penetrate it.

Some of its good points are as follows:

1.—It bears fruit the same year the seed is planted.

2.—It is a prolific bearer; only a small garden plot is needed to produce berries enough for a family.

3.—It is a good shipper, being so firm. I had a quart of these berries sent 500 miles by parcel post; they were six days on the way, and the rough handling in the mail did not harm them. None were crushed or decayed; they arrived in perfect condition.

4.—They may be canned for winter use.

5.—Their flavor in pies is equal if not superior to that of blackberries or huckleberries.

The American fondness for pie is often treated as a joke. I can see no more reason for being amused at it than at a taste for roast beef or ice cream. If properly made, fruit pies may be as wholesome as any other food, and much more so than some foods in common use. Variety in food is not only agreeable but wholesome. I think, the fact should be more generally known that food that gives gustatory pleasure is more readily digested and, therefore, more wholesome than food that is tasteless. The experiment can easily be made by comparing a meal of dry bread with one of bread, butter and jam; the former lies heavy on the stomach, the latter is digested with comfort and satisfaction.

So, I have no apology to offer for trying to help put before the public a new addition to our resources in the food line. I am quite certain that those of my readers who will try the new fruit will be glad that their attention was called to it.

The accompanying illustration shows the berry a little smaller than its natural size.

It only remains to select a convenient popular name for this fruit. Several have been suggested: Garden huckleberry, garden berry, pie berry and others. The first might cause confusion because it is not a huckleberry; the third might do and yet it is a little indefinite. Usage will probably gradually establish a name.

I might mention that it is an advantage to start the seed very early in spring under glass, and later transplant like tomatoes.

Readers who would like to try this new fruit can obtain a packet of 50 seeds by sending 15 cents to *Vick & Hart, Seedsmen, Rochester, New York.* (2 packets 25 cents.)

Not Cuticura but the Cooties Cure

The *Border Cities Star* makes a suggestion that might be of value in these days of "Red" propaganda and general tendency to ignore the lessons that experience has taught the world. It appears that a well known United States senator, whose opinions are at least pink if not quite Red, is at present travelling in Russia. A party of travellers returning from that modern paradise report that they met the senator on a train between Moscow and Petrograd. He was in a compartment of a sleeper without mattress, bedding, or pillow, and was engaged in a sanguinary battle with those friendly little creatures which the boys in the trenches used to call "cooties"; in other words, to quote the language of the trenches, the senator was "reading his shirt".

It would be interesting to know what he thinks of the blessings of soviet government by this time. There is nothing like personal discomfort to tone down the wild assertions of the theory-monger. It is easy to praise communism from a safe distance, when one is surrounded by the comforts of civilization, eating three meals of good food a day, and enjoying a clean and sanitary bed at night. But it has a tendency to open a man's eyes and set him thinking, when he is brought into personal contact with the conditions that are the logical result of an irresponsible government of ignorance, cunning and greed. It may need a lesson of this sort to show certain theorists what may be expected when unprincipled and cruel men grasp the reins of power. It is to be hoped that the spectacle presented by Russia, since the collapse of law and order, may in time prove a lesson that will at last sink even into the brains of our radical senators. Hurrah for the cooties!

Questions Answered

G. S. When and by whom was telegraphic communication across the Atlantic established?

Ans. Cyrus W. Field, a New York merchant, succeeded in laying the first transatlantic cable between Newfoundland and Ireland, in 1858. On August 16, of that year, messages were exchanged between Queen Victoria and the President of the United States. The cable ceased to work two weeks later, September 1.

In 1865, Field made another attempt to lay a more perfect cable; but, in laying it out, too much strain was put upon it and it broke, the end sinking to the bottom in mid-ocean. The next year, a new cable was successfully laid all the way across.. The ship then returned to mid-ocean, fished up the broken end of the

[*Concluded on page 909*]

Good Medicine

Let us learn as we go, but not forget what we know

Conducted by GEORGE H. CANDLER

A Very Human Document

"There is a Destiny that shapes our ends."

THERE *is*—I know it! Just about four weeks ago, Old Man Destiny came and meddled with one of my favorite ends and, not satisfied with shaping it until it resembled one of those round, red sausages made in Milwaukee, Wisconsin, U. S. A., from which (when you boil it and stick in a fork to see if it is done) the juice squirts in your eye, by such "shaping" and other nefarious practices, pretty nearly sent me to my ultimate destination—wherever that may be.

A whole lot of interesting thoughts (and things) occurred to me while Destiny was keeping me flat on my back, with the right lower extremity elevated at an angle of eighty degrees and feeling much larger and a thousand times more sensitive than all the rest of my anatomy put together.

Some of these (not ALL), I will record for the benefit of my contemporaries and posterity; moreover, I shall throw some light on persons and things which may never have had that particular illumination thrown on them before.

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To begin at the beginning, let me state that Destiny worked either through a profiteer manufacturer of rubber boots or a still more inhuman bootlegger of the fluid type. Against each, the evidence has been presented, weighed carefully, and the only verdict we could reach was of the Scotch variety, i. e., "not proven." Personally, I lean towards conviction of the *rubber* bootlegger—there was a visible hole in *his* product.

Anyhow, a few days before our story opens, I went off shooting ducks. To accomplish this feat, it was necessary to drive many miles at night, get into a boat at the drear hour of 3 a. m.; row more miles; land, wade through a mile of slough and then sit in a blind till the sun turned the East pink. He does this now about 6 a. m. Believing, poor boob, that Uncle Samuel loved "the boys" with a great and avuncular love and had taken every pain to assure their welfare and comfort while killing Huns in the late unpleasantness, I had invested in a pair of Army waders, "cost to the Government $11.00 and now being sacrificed for $5.00." I should have known better, but I thought that the boots *might* be superior to the Jam and other tinned (alleged) cosmestibles that "the boys" were fed up on to rouse their fighting spirit, and that they would at least wear as long as the other "army regulation" truck which I (after "the boys") had become so painfully familiar with.

Thus, duly accoutred in the "waders," I stepped, in the darkness before dawn, trustfully out into the chilly slough and blithely but blindly proceeded blindwards. The water rose, reached just below each patella, then above it and there (on the *left* side) just naturally found the place where the manufacturer had economized on rubber, and ran in (and down) till the boot (wet-tight below the marker's water line) contained one full quart imperial measure, as well as one foot. Naturally, under the circumstances, I had done what I set out not to do and this one of my feet had become (and remained) distinctly "damp."

The long hours passed, the ducks flew, the guns cracked and at last 'twas noon, and homeward we wearily plod. I think "plod" is good—that's what we did—*plod;* and "squish". Arriving ultimately at the place from whence we had gone, we met sundry inquiring and admiring friends. To them, the boot was exhibited and they thereupon prescribed *"something* in a little ginger ale" for the wet foot. You know those simple oldfashioned remedies against snake bite and chills? And *you* know, one's family warns constantly against getting your feet wet. Well, one ginger ale with *something* in it was taken, as a

corrective; another admiring friend advised a repetition and, after that, the patient—foot now warm—himself demanded a third for safety. From then on, the fleecy clouds floated peacefully across the cerulean sky and all Nature was in tune—indeed it *was:* a most beautiful tune moreover. How could *I* tell that Destiny was hiding in a boot-leg of some sort and, being thus ignorant, avoid one or t'other? How indeed? Stern moralists may remark that one could be better occupied at 3 a. m. than in wading through sloughs to wantonly slaughter ducks. Others may not object to the slough but will point an accusing finger at the ginger ale. They may be right; I shall omit it in future. Anyhow, with nice, dry, wool socks on, I came home (after having with pomp and ceremony incinerated the "Army waders") and toiled, as only I toil (at least I often so believe) for three full days. I felt *gorgeous.* Then, upon the fourth night, I sat down in the sweet quiet of my home (after disconnecting the radio and driving everyone to bed) and pounded luminous ideas out of the typewriter. For me, ideas flow most lucidly and luminously from 10 p. m. till sunrise. Often I have thought I was almost clever at 2 a. m.; but, by 10 o'clock, when I went out into the wicked world again, I knew that I had merely had a nightmare. *Sic transit gloria mundi.*

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At midnight of this fateful day, I was "going strong": lambent words fairly leaped into line and I feel that, if nothing had happened, the thought-thing I was creating would have been read by weeping grandsires and lisped by little innocent children long, long after I was dust. Yes, it was as beautiful as *that.* And then, all of a sudden, my right lower limb (the leg) began to dominate the picture. It felt large and numb and like a hive of bees—very, very nervous bees. Not a bit like the old reliable leg that had gone wherever I went so many, many times. I tried to get up and investigate this phenomenon, and promptly fell down. How would you like to promptly fall down when you tried to stand up at about 3 a. m.? I objected strenuously. Somehow, I managed to crawl and haul myself upstairs and into bed. For lo, these many years, I had been putting other people there and, now, the force of habit made me seek similar safety. Then I looked at that leg. I could not believe I had ever seen it before. Judicially, I asked myself how *I* could possibly have a "milk leg" and, after deciding quite definitely that it was a phlegmasia alba dolens, arrived at the incontrovertible conclusion that I had entered upon another incarnation and changed sex, or something. Anyhow, like the old lady of the ballad, whose skirts were "cut all round about up to her knees" and who "began to shiver and then began to sneeze," and cry "if this be I, as I believe it be, my little doggie he will come to me," I woke people up and demanded to be identified. And they, with one voice, insisted that I was still I, but decidedly blemished on the right (or "nigh") lower aspect.

Please bear in mind that the last "something" in the ginger ale had been consumed four days before, that I am ordinarily a most abstemious person and that it was the left boot-leg which had the hole in it, whereas it was the right leg which had suddenly assumed such ridiculous proportions. At this time, came the chills—and increasing *dolor.* The *rubor* and *calor* had also come to stay. 'Twas a stormy dawn, mariners, and angry clouds scudded over the horizon all that day. My foot was pointed Heavenwards and I thought I was certainly going that way as an entirety. At least, I had hopes.

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Then came the *confrères* and, closely after them, the condolers and the floral confections. Some kindly hearts thought, I might as well smell their odor (I mean that of the blossoms); so, sent their gifts early. Others, of the more conservative type, inquired as to conditions and made reservations at the florists. One particularly dear friend called up and asked "how I wanted my wreath", and I told him "sunny side up." He promptly sent me something which had nothing to do with flowers at all but had a very familiar (and nice) smell. The stern *confrères,* however, wouldn't let me have any. I have decided that, in my future dealings with the sick (milk-leggers and all), I shall be *firm,* perhaps, but not *too* stern. What boots it?

Then, from the grave and learned professional friends, I demanded a diagnosis. They raised their eye-brow half an inch and remarked, "phlebitis." That was obvious. But, *"why* a phlebitis?" I asked—"how come?" They said many, many words, but *I* don't know—and *they* don't know—why or how, to this minute! We talked about the holey boot and the possibility of that ginger ale being contaminated by bootleg in some way. But the bum boot was the left one and the ginger ale was "guaranteed" and had hurt no one else. So, what had they to do with it? THAT is what I still want to know;—*still,* I said.

About this time, came the Serologist—a pessimistic person who dabbles, even in his dreams, with antigens and complements. Said he, "Let me see the leg." He saw it—from Scarpa's triangle down to the distal phalanx of the great toe. Nothing was hidden from his eye. "Ha!" he ejaculated, and again, "Ha!" Then he requested that I uncover to him my past. Now, I deemed *that* indelicate. I had already revealed a whole lot and I didn't think it proper to go further. Stubbornly he persisted, however, pointing out that I *might* be a Doctor Jekyll and Mr. Hyde (he had known so many of them), and a Wassermann might (Who could tell!) reveal the fact that, in some unguarded moment of my career, I had chased something unchaste —or words to that effect. Thereupon, I put my hands together and, with sobs, confessed that I really had nothing of that kind to tell about—that I had led a distinctly hum-drum and proper life and knew a great deal more about women in the abstract than in the concrete. Finally he went away, unconvinced and murmuring something about "losing my leg to save my life." These serologists make one tired anyhow!

Then came another chap and *he* insisted that all my teeth ought to be pulled out instanter—to save my leg, I suppose. "Streptococci," he said, "virulent streptococci: They must come from *somewhere* and why not from the teeth?" I suggested that they might come from the appendix, and he cheerfully agreed to have that out too.

There and then, I began to have visions of going through life with one leg, no teeth (except removable ones), no appendix and the rest of me shot full of Arsphenamine. Better than that, I thought, to become an angel of *any* color. So I turned over, consigned everyone to perdition and resigned myself to whatever might happen. Anyhow, at that time, such avoirdupois as I had was slipping away at the rate of half a pound every two or three hours, and it seemed it might as well all go.

THEN, in the form of a "delegation", came Healing! Slowly and majestically into my prison cell marched these individuals; around my stricken cot they ranged themselves and told me how good I looked—under the circumstances. I knew that, in just the same order but with a somewhat more serious and grievous mien, they would complacently walk around my waxen form and say in hushed tones, "How natural he looks!" And then and there I decided to fool 'em and get well. I'd rather *be* "natural" than *look* it! No "milk" or other kind of leg was going to kill ME. No steady tramp of feet was going to resound YET through *my* front room and no Ecclesiastic with the tremolo stop out was going to tell the world what a noble soul had passed unrecognized from its midst. Not if I knew it. Moreover, no one was going to shoot my Parker 12-gauge when the ducks came in this year—or next. There were other weighty reasons, too, why I hesitated about leaving—But I said at the very beginning that I wouldn't reveal *everything.*

So, to the one *confrère* who has real medical horse sense (even as my own), I suggested that we just go to work and do things —rational things. We did 'em and, as a result, at the end of two weeks, dented, diminished but determined, I was "out and about" once more. But, believe me:

"You may break, you may shatter that leg if you will,
But the scent of Guimethol will cling to it still."

However, the ducks are still flying, Thanksgiving approaches, and, then, even "If Winter Comes," I know Spring will soon again trip in and the big black Bass will strike at a surface lure. So, perchance, "All is well with the World": as well, that is to say, "as could be expected under the circumstances." Of course, we see the profiteers still spending their profits; we see surplus Army goods being distributed where they will cause the most annoyance and distrust in official inspection, and we at least *hear* of the merry bootlegger going upon his wet, wet way and cackling more and more derisively at the Volsteadians. If he only wouldn't put methyl where ethyl should be, one might have more sympathy for him. As it is, he sells Haig and Haig when there "ain't no such thing," produces Gordon Gin in original containers (made within the week) and purveys French Cognac distilled from Iowa corn. He ought to be compelled to be more careful. Some of these days, he'll get his packages mixed, drink from the wrong bottle himself and be "translated." Then, *what* will folks *do?*

And that logically brings me to another subject which received a good deal of consideration when I was lying, very much like a Green Sea turtle, helpless on my back with one flipper in the air.

Why Are People So Afraid to Die?

During my rather active career, I have, naturally, seen a number of fellow-human

beings pass away. Some of them have slipped off with a smile upon their faces, others have fought Death to the last gasp, praying the Doctor earnestly meanwhile to "save them"—if only for another hour. The natural physical fight against dissolution every physician can understand; the widespread and very terrible *fear* of Death is not so easy of comprehension—unless one looks far beneath the surface of things.

One might think that when, to the rather drab daily struggle most people have to make to keep things going at all, there is added constant pain or absolute disability, the desire to rest—to have done with it all—would entirely sink the fear of the unknown. Yet, we see the very old, the decrepid, the hopeless invalid hang on to Life with pitiful determination and—most of them, at least—dreading the moment when they *must* depart. I am quite aware that somebody will here quote me Shakespeare's soliloquy, "To be or not to be" and someone else will say "All that a man hath will he give for his life." True, provided Life still offers him something worth while. But, when it doesn't, or when it appears impossible to longer evade the Grim Messenger, why are people AFRAID to go? Because, in my estimation at least, they are like children who have been told by idiotic parents or others that "the bogey-man will get them" in the dark. Fear of an entirely harmless thing has been *instilled* into them. Children intelligently brought up are *not* afraid of the dark: there is no "bogey-man" in their minds and they go serenely where their less fortunate companions dare not venture. So he, who has been able to cast from his mind the cruel pictures of an avenging God, a rampant Devil and a bottomless Hell, fears no more to die than he does to slumber. Even those otherwise sustained by the Xtian faith often falter at the last moment, because they have been taught "after Death, the Judgment"; and they will persist in regarding their Creator as a vengeful Deity, not as an all-wise and merciful Father. They have had, all their lives, verses from the Scriptures hurled at them to "make them behave" and the threats, unhappily, too often drown the promises.

Death of the physical being is just as certain and natural a process as is its birth and, surely, the future of the spiritual being may be left with perfect confidence to the single source from which anything spiritual could come? To me, Man's interest in everything which we can sense ends when he ceases to breathe—what any ethereal part of him may become, can not, I most firmly believe, be influenced in any manner by the mundane actions of the combination.

Countless billions of men, of various degrees of intelligence, have passed onto and from this planet alone. If *we* have souls, each and every one of them must have had. And, yet, only a very, very small proportion of the human race has possessed (or possesses) even an inkling of the faith which, unhappily, today, so often makes quite decent people—as we know and judge them—*afraid* to die. Why cannot he who believes in an Eternal Father trust him as he would have trusted his own or as he would have his children trust him? Even if conscious of having erred, can he not go unafraid, confident of understanding and with the simple request:

"Father, take Thou my hand and lead
me safely home; for I have lost my way?"

The man who declines to believe in anything but his total extinction at or by Death surely ought not to be afraid to become nothing. Further, those who feel (and sometimes insist upon asserting) that they are "nothing but poor worms," now, might reasonably hope that they might be something better than that elsewhere.

No, Death may disturb our plans. His approach may make us feel sorry for those to whom our existence has meant much or everything. But, no rational being—to say nothing about the "good Christian"—should have the slightest *fear* of dying when his call comes.

To "linger superfluous upon the stage" is, I, at least, think, infinitely more to be dreaded than a dignified and timely exit.

"Here endeth the Lesson."

MAY Christmas bring you joy and right good cheer
And both abide with you throughout the coming year!

Let's Talk it Over

Dr. Bryce's Talks

A Christmas Eve of Long Ago

THROUGH the kindness of the Editor I have been granted the privilege and pleasure of talking to the readers and friends of THE AMERICAN JOURNAL OF CLINICAL MEDICINE for more than a year, and with this issue I complete twelve consecutive months of my "Talks" to its readers. Now, I am just thinking what would be the best thing I could say to my friends in this just-before-Christmas number of the Journal. There is one thing about Christmas that seems to strike us all very much alike, and that is: We all somehow feel that we would like to do very much more than we are able, to bring joy and happiness to those around us. This feeling is contagious. It is a time for loosening the purse strings, for forgetting old scores and bringing joy to those who see no hope ahead. I wonder if Dr. Achard will let me take enough of his valuable space to tell a little story of a medical student and his experience Christmas eve just fifty-two years ago? I am going to risk it anyhow—he has been most indulgent with me heretofore, and I might just as well be hung for a sheep as for a lamb!

The night of Christmas eve caught me in the dissecting room working hard to finish up my last "subject" in time to go out and mingle with the gay crowd of roisterers who were holding high carnival in Broad street. Every student but one had washed up, bidden us good night and left. The party remaining was a young man I would have taken to be twenty-four or five years of age, and I only knew him by sight as a student of the college. He had a pleasant address and was a finely developed and handsome man with unmistakable marks of the French Creole. He was reserved and dignified but approachable and evidently a man from well-bred ancestry. His table was across the room from mine and I noticed that he seemed bored and ready to quit; and yet he seemed to be uncertain about it. Finally, he arose, pulled down the old oil-cloth cover over his "subject", went to the sink and took off his gown and washed up. I had never spoken to him except to bow to him casually in passing; for, I had never heard his name. He stood by the register for a while and did not seem to care to leave. As he appeared to be lonely, I pulled up a high stool near me and beckoned him over. He smiled and took a seat on the stool and wanted to know if it would be long before I was ready to leave? I told him that I would not be very late, as I wanted to take a couple of hours strolling up and down Broad street and watching the crowds. "Can I stay here and go along with you?" he asked.

"I will be glad to have you; but, had we not better have speaking acquaintance?" I reminded him.

"Oh, you mean my name? That involves a confession and a story of some length," said he, "but, if I am going to claim your friendship, I should make you my confidant," he continued and then gave me the following introduction to himself:

"I matriculated in this college as Thomas Jackson and to all who have made my acquaintance in this city I am known by that name. I am from New Orleans, and my right name is Robert Walker. My father's name was John Walker, and he was a prominent attorney and a wealthy man. My mother was a beautiful woman and loved me and little Mary, my two-year-old sister, with her whole soul. Of course, this is the observation of a little boy only five years old, for I have never seen or heard of my dear mother and little Mary since I was five years old. My last recollection of her was, when she came one morning into the nursery, dressed little Mary for going out and put on her travelling suit, made the coachman take out her trunk, and came to me and kissed me and told me to be a good boy until she came back for me. She left me in charge of the nurse. She brought my little sister to me and told me to kiss her good bye. Then they got into the carriage and were driven off.

"My father was at his downtown office and knew nothing of it until he returned to late dinner. He found a letter she had left and, after he had read it, he took me up in his arms and said, 'My dear little boy, you are all I have left, and we must love each other and stick together as long as we live.'

"I never pressed my father for an explanation of my mother's strange conduct, for, it seemed to distress him when I made any allusion to her, and we lived as two pals. He gave me a liberal education and, when I was twenty-one and had graduated in law, he admitted me into his office as his partner.

"One day, during his absence from the office, a lady called and requested a private interview. Conducting her into our consulting rooms, she removed her veil and I recognized her as one of the handsomest and most popular actresses in the stock company of our city. She stated that she had come as a matter of duty to give me certain information that might partially atone for an unfortunate indiscretion of hers in her earlier life. She informed me that, when a mere girl, she had married against her family's wishes, that her husband was a flashy gambler, soon got into serious trouble and was indicted for trial and was confronted with a long term in the penitentiary if the case went against him. My father was prosecuting attorney and she went to his office to plead with him to try to suppress the prosecution. In her distress, she threw her arms around my father's neck and, calling him John, she begged him not to desert her now. My father embraced her affectionately and, kissing her, told her to go home and he would do all he could for her.

"It happened that my mother opened the private office door quietly and witnessed the compromising attitude of the two. She departed without my father having seen her, but she saw her and made no mention of it to my father. After she learned that my mother had left my father and evidently wished to evade him for the future, she was certain that it was in consequence of what she had seen at his office. She tried in every way to find my mother and convince her of my father's innocence of any infidelity towards her, for, she said, 'I am your father's sister'. She had come to tell me that she thought she saw my mother in this city when she was playing here recently and advised me to live here under an assumed name until I found her.

"'Then you are my aunt?'

"'Yes, but remember, my family has outlawed me because I married beneath my station,' she said bitterly.

"When I told my father of the interview, he said that her story was correct and he hoped I would take her advice and try to locate my mother. We began to straighten up our business, so that he could spare me for a while, but he seemed to have a presentiment that he would not live long, and hastened to arrange many important matters that would affect me if anything should happen to him. My father died suddenly very soon after we had completed our plans for my leaving. He only had time, when stricken, to tell me to never cease looking for my mother and, if I found her, to care for her as a son should and to be an affectionate nephew to 'poor Nina,' his sister, who had revealed herself to me. And here I am tonight alone in the world and just hoping that I may at last find my mother and sister and pluck from her heart that poison of an insane jealousy that made her abandon husband and child."

I had finished my work and, drawing down the covering on my "subject", I soon washed up and we two started to go up Broad street and mingle in the crowds that were bent on fun and frolic and surging up and down indulging in all manner of good natured sport.

Christmas eve in the Old Dominion, fifty years ago, on Broad street in the good old city of Richmond, was something to be remembered by all who participated in the celebrations of those days. The liberty of the city was given over to the merrymakers, old and young. The police were instructed to arrest no one except for some criminal act, and to help all drunks home. There were no street cars, no telephones, no prohibition laws, and everything was wide open and free in the well lighted bar-rooms that could be found in every block. The boys had bonfires in the middle of the street. Firecrackers, Roman candles and rockets filled the air with flames and noise. The happy throngs were yelling, singing and jostling each other and everybody seemed filled with the real Christmas spirit.

As my friend and I wedged in and out, we saw other sights besides the smiling faces of the rollickers; for, now and then, we came upon a few who were looking wistfully into the toy shop and confectionery windows and passed on, evidently unable to get what they would have liked for some little one who was looking forward to the Christmas gift. As we paused in front of the most extensive toy shops in the city, I noticed that Walker's attention was drawn to a young woman hold-

ing a little boy by the hand and looking at a little kind of velocipede that was quite popular for children of his age. She shook her head when the merchant gave her the price and, with deep disappointment showing on her face, led the little boy from the store.

As she passed us, Walker looked closely at her and turning to me said with much agitation:

"By God, he shall have that thing this night."

"How are you going to do it without offending her?"

"We will follow her home and I will know where to send it," he said.

"But why are you so specially interested in this case?" I asked. "There are many others that we have seen tonight."

"I do not exactly know myself, but I have had a feeling all this week that I am near my own dear ones, and my heart has suddenly gone out to that young woman whose features remind me of what I remember of my mother," he said.

In the meantime, we had kept close behind her and, instead of going to her home, she went into an uptown pawnbroker's shop. We entered and, while looking over some rings with a clerk, observed that the young woman was trying to get a loan from the proprietor on a small watch. After much haggling, she handed the watch to the old Jew, received a five dollar bill and left the shop.

Walker asked the old fellow to let him look at the watch a moment, and also inquired if he knew the lady and her residence. He said he had known her and her mother for several years and gave him her number and street, after being assured that he might bring her good news. The watch was a beautiful little thing and upon the inside of the case were engraved the letters "J. W. to Mary".

"This is my mother's watch," said my friend.

"I reckin not, she is a vidder and her daughter is a vidder too and she haf no kin anyveres," said the Jew.

"What does she do for a living?"

"She keeps a nice boarding house and she is a fine lady but mighty poor all the time."

"What is her name?" asked Walker.

"Mrs. Henderson."

We concluded to call upon Mrs. Henderson and, under the pretext of securing lodgings, find out whether or not she was the mother that he had sought so long. We found the place on a quiet street and, as we approached the door, we noticed a man coming out and heard him saying to the lady in a very harsh tone that he would turn her into the street unless she paid the rent next week. The distressed woman followed him on the porch and begged him to wait just a little longer. Walker must have been pretty certain that he had found his mother; for, he was suddenly and uncontrollably aroused, and, being a man of powerful build, he seized the man in the collar, dragged him in the hallway and, under the light and in the presence of the terrified and astonished lady, said: "Take off your hat and apologize to this lady for your rudeness or I'll throw you down those steps".

The apology was quickly and amply made and, turning to the lady, he said, "Madam, how much do you owe him?"

"Twenty-five dollars."

Handing her a roll of bills he told her to pay "the brute and take his receipt and let me kick him out".

The bewildered woman unrolled the notes, paid her rent and handed the balance back to her benefactor, who told her to keep it for her Christmas gift.

"In the name of heaven, tell me whom to thank for this timely help."

"I am Robert Walker, of New Orleans, in search of his mother and little Mary, and who are you?" he said.

I said to the astonished landlord that I thought it time for us to leave, and we both bade them good night and left them alone. As I was descending the steps the lady called me back and asked me to take my Christmas dinner with them on the morrow, and she added, "My son will spend tonight with his mother".

The rent collector remarked: "It was lucky her son came when he did, but a damn sight luckier that I got off so easily".

Walker believed in presentiments, and I have much to make me rely upon strong impressions; but, one thing impressed me more forcibly than the happy ending of his long search for his mother and that was, the terrible price we pay for yielding to the promptings of an insane jealousy.

C. A. Bryce.

516 N. 10th St., Richmond, Va.

CLIMATE AND TUBERCULOSIS

Not so many years ago, the advice commonly given to the sufferer from tuberculosis was, "Go west and rough it". Of those who followed this sort of suggestion, some, to be sure, did recover in spite of the "roughing

it". There was supposed to be some sort of magic in the high and dry climate of the west which could arrest the development of tuberculosis, irrespective of the work and life led by the patient.

Investigations carried on by the National Tuberculosis Association and its 1200 affiliated organizations in all parts of the country have established the fact that, speaking generally and with certain rare exceptions, tuberculosis, if the treatment is begun in time, can be

Roof Garden of Cragmore Sanatorium

arrested in any climate, provided the patient is given the proper care which includes the three great fundamentals of sufficient rest, good food and fresh air. This conclusion is based on the findings of world-famous authorities on tuberculosis and the records of sanatoria located at all points, from a few hundred feet above sea level within sight of the ocean to the mile-high sanatoria in the heart of the Rockies. Therefore, the Association, as part of its widespread educational effort, has tried to impress upon the victims of tuberculosis that, unless they have sufficient funds to provide for their care anywhere, they should take the treatment at a sanatorium near their home town.

In spite of this advice, there are literally thousands of persons who call themselves in many cases "cure chasers", who wander from one section of the west or southwest to another, in an effort to find what they call an ideal climate. These are quite distinct from the well-to-do patients who can afford to pay for proper treatment, and they are in reality indigent migratory patients who find it necessary to apply for assistance to municipal agencies in the various places where their wanderings take them.

An investigation recently completed under the auspices of the National Tuberculosis Association has covered the cities of Colorado Springs, Denver, El Paso, Phoenix, Los Angeles and San Antonio and shows that a total of 7,319 tuberculous individuals were cared for wholly or in part by municipal agencies in those cities in the course of a year. Thus, there was on an average one indigent tuberculous person to every 155 of the entire population in these cities.

How far these were cure chasers of the indigent migratory tuberculosis type, was made clear in the report of Miss Jessamine S. Whitney, Statistician of the National Tuberculosis Association, who says:

"Sixty-three percent of all the tuberculous in the six cities, for whom length of residence was known, had resided there less than two years at the time they applied to the agency. I am inclined to think that any person who has resided less than three years should be classed as migratory. If this division is made, then 75 percent of all cases can be classed as "non-residents". In the Denver study, even among the 484 classed as residents (having resided two years or over) all but 73 had come originally as health seekers, or with a member of their family who was ill."

M. W. A. Sanatorium, Colorado Springs

The term "cure chaser" is self assumed and reflects the optimism with which these thousands leave their homes and friends and set out to find a climate which agrees with them. At the same time, they expect to find there some form of "light outdoor work" by which to support themselves. Speaking generally, such work does not exist or not enough of it to furnish jobs for more than the merest fraction of the cure chasers who arrive by scores every month in many western and southwestern cities. Failing work, the natural result is that, sooner or later, many of these unfortunates will be obliged to turn for help to the welfare agencies of the cities in which

they find themselves stranded.

As an indication of the fact that a wrong idea will persist in spite of powerful educational forces brought against it, it is interesting to note that more than half of this migration of indigent health seekers come from a relatively small group of states. These are, in order of the number of cases recorded—Illinois, New York, Missouri, Ohio, Pennsylvania, Michigan, Indiana, Kansas, Nebraska, Oklahoma and Minnesota. Texas and California were also given as legal residence in a large number of cases, but the former only in the Los Angeles records and the latter for the Texas cities. So, these furnish an example of persons without funds to justify their traveling and shifting between two states in quest of the same thing—an ideal climate for tuberculosis.

All this has been known in a general way for years; but the report just prepared, as a result of the investigation, gives the National Tuberculosis Association and its affiliated organizations further data which may help in dissuading tuberculosis patients from starting out on a fruitless quest. As far as the records are available, the mortality among the indigent migratory or "cure chasers" was a ratio of one death in every eight cases. Yet, more than half of those, who came to municipal agencies seeking aid, afterward evidently moved on to some other place, for 54 percent of them dropped out of sight. Of the remainder of the records studied, 13 percent had died, 10 percent were definitely known to have moved out of town and only 23 percent were still in the city.

As might be supposed, the majority of the "cure chasers" are men. The report shows that 72 percent of the non-resident persons who applied for help, in the cities mentioned, were men and only 28 percent women. Also, 70 percent of the men came without their families, while only 29 percent of the non-resident women were alone. As to the time when the "cure chaser's" funds run out and the real tragedy begins, the records indicate that 38 percent of the men applied for help within a month after their arrival in the city of their hopes, while only 19 percent of the women made application as early in their stay.

To end this tragedy, with all it implies of hardship, homesickness and physical suffering, is one of the many tasks which the National Tuberculosis Association has undertaken in cooperation with its affiliated organizations. In the fifteen years since the Association began its work, the death rate from tuberculosis in this country has been reduced from 200 for every 100,000 population to about 100 per 100,000. Yet, there are today over a million active cases of the disease in the United States and the number who died from it last year was no less than 132,000. Hence, there is still much to be done if this is to continue

a winning fight. The public can help by purchasing Tuberculosis Christmas Seals, the little one-cent stickers which provide funds whereby the work of the Association and its affiliated organizations is financed.

HOW TO ENJOY POOR HEALTH

Don't you know a lot of people who "enjoy poor health?" Whenever they feel a little better in the morning they are unhappy about it all day. For the benefit of people who wish to enjoy poor health, the following set of rules has been drawn up. If they will religiously observe these rules, they may be assured not only of persistent ill health, but of an early grave.

1.—Encourage the flies in every way possible. Remove all screens from doors and windows, and leave plenty of stale food around. A little garbage helps. Encourage the flies to come to the table with you and share your meals.

2.—Throw away your toothbrush. The toothbrush is one of the deadliest enemies of poor health.

3.—Whenever possible, use a common drinking cup at a public fountain. Even if you are not thirsty. There are dozens of diseases that are interesting to talk about that can be contracted in this way

4.—Buy patent medicines in large quantities. Some of these, unfortunately, are compara-

tively harmless, but, by experimenting with a dozen or two, it is usually possible to impair some of your vital organs beyond recall.

5.—Eat heavy meals at irregular hours. Pie eaten late at night is usually effective, particularly if it is the kind mother used to make. Lots of candy and good rich grease are recommended.

6.—Always get off street cars backward, and when you want to cross the street, pay no attention to traffic policemen or automobile drivers. If you drive a car yourself, try to keep up an average of thirty miles an hour through traffic.

7.—Never go to a doctor when you are sick. If possible, dose yourself with some old family remedy that somebody's grandmother told your great-aunt about. Carry a horse-chestnut with you to guard against rheumatism, and tie a string with seven knots in it around wrist to keep away pneumonia.

8.—Avoid fresh air. Sleep with the windows tightly closed. Remember that night air is the only kind there is at night, and that many people have permanently lost their poor health through sleeping with the windows open.

9.—Have nothing to do with the American Red Cross, or any of the organizations that are promoting public health. Oppose all local efforts to better health conditions, such as clean-up days, or attempts to appoint public health nurses. Be glad that you did not join the Red Cross during the annual Roll Call, November 11-29.

10.—And lastly, be sure that your wife or husband has the phone number of the nearest undertaker, and that there is plenty of room in the family lot at the cemetery.

The American Red Cross,
Washington, D. C.

NEURASTHENIA WITH COMATOSE STATE

About two months since I was called to see Mrs. B.—an elderly lady—age about 67 years, whom I thought to be suffering from neurasthenia. The symptoms were those of extreme exhaustion. Skin, especially of hands and feet, was cold and clammy—slightly moist. Face very pale and expressionless. Respiration very slow, though deep and regular. No valvular lesions in heart were found on stethoscopic examination. Pulse, 120 on first examination, dropping down in from 30 minutes to one hour to 80 to 90, probably the usual rate. I have never found it intermitting.

The patient complains of no pain in any way. No headache at any time; in fact, she says, she is comfortable at all times, except for general weakness. There is no irregularity of pupils in any way.

History: The trouble began about two years ago. Slight paroxysms of short duration followed by coma lasting sometimes one hour or more and coming on without warning. Sometimes, she is found in a sitting posture, sometimes across the bed and sometimes on the floor. Her mind seems good at all times, except for from 30 minutes to one or two hours following an attack.

I can find no evidence of kidney disease; neither can I attribute the cause to digestive derangements. Appetite and digestion seem normal. Family history, so far as can be recalled by immediate family, is good, nothing similar ever having been known in the family.

I wish to state that her husband died about two years since and that the beginning of her trouble was observed very soon after his death. In fact, her general health is claimed to have been good up to the date of death of husband.

These paroxysms are irregular in occurrence. Sometimes she has two or more in 24 hours and sometimes there will be intervals from two to four days.

Will some reader of this good journal suggest a probable cause bringing about these paroxysms? Is it cardiac insufficiency due to vasomotor collapse or do you suspect some form of epilepsy? Would you exclude epilepsy—age considered? Mr. Editor please give me a suggestion.

J. S. McMahan.

Clinton, Arkansas.

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[Here is a splendid case history for the exercise of our diagnostic acumen. What is the nature, what the origin of the trouble described by Doctor McMahan? If our subscribers desire us to inaugurate and maintain a "Medical Seminar", we have here an opportunity to find out how many of them would participate in its exercises. What, in your opinion, is the diagnosis?

To be sure, a Medical Seminar would be at a disadvantage in so far as it often will be impossible to arrive at an exact diagnosis. Even in the case of an unfavorable outcome, autopsy is not always permitted and, thus, the pathological diagnosis can not be made. Still, there are great possibilities in a discussion of case reports like the one submitted. Let us see what we can do.—Ed.]

A CHRISTIAN-SCIENCE REJOINDER

Editor, American Journal of Clinical Medicine:

Since you have given circulation to a very unfair and unwarranted attack on Christian Science when you published an article entitled "Hemoptysis Treated Rationally and Then by Christian Science", in your November Journal, I must ask that you give publicity to this correction and refutation. The writer of that article, who is a physician, expresses doubt of his ability to heal a case of pulmonary tuberculosis and then intimates that he probably would have healed the case if the patient had not resorted to Christian Science treatment. At this point, it may be said that, when the medical profession is willing to assume all responsibility for the failures resulting from medication, then—and not until then—should it be considered ethical for doctors to criticize another system of healing. Hundreds of authenticated cases of healing of tuberculosis under Christian Science treatment have gone on record, and these testimonials are available to anyone who wishes to be convinced.

The critic stated that Christian Science is Mesmerism. Such a statement has no foundation. The theory of Mesmer has no divine spark. It is entirely the operation of the human or carnal mind, whereas Christian Science is founded, in premise and conclusion, on the divine Mind, on God's law alone.

The critic's insinuations with reference to Mrs. Eddy's domestic life are most untrue. Here are the facts furnished by proof. In 1843, Mrs. Eddy, then Mary Baker, married Colonel George W. Glover, of Charleston, South Carolina. One year later, he died of yellow fever. His widow returned to her paternal home in Tilton, New Hampshire. After nine years of widowhood, she married Dr. Daniel Patterson, a dentist. This marriage was unfortunate and Mrs. Patterson was granted a divorce in 1873. In 1877, she married Asa Gilbert Eddy, one of her students in Christian Science. Mr. Eddy passed away in 1882. Not one incident in her life—and the record is complete—could cloud her crowning example of pure womanhood.

That she cursed Dr. Phineas P. Quimby, as the author states, is false. Mrs. Eddy was grateful to Dr. Quimby because this mesmerist, through suggestion, relieved her of pain. (See "The Life of Mary Baker Eddy" by Sibyl Wilber.)

Christian Science Committee on Publication for Illinois.

Chicago, Ill.

[If the "hundreds of authenticated cases of healing of tuberculosis under Christian Science treatment", that "have gone on record", are of the same nature as the numerous cases of advanced and far advanced cancer that, it has been claimed, have been cured through the same agency, we must exercise our right of doubting the exactness of the claim. Neither carcinoma nor tuberculosis, among many others, are talked away or thought away. Even Divine intervention does not act contrary to the laws of nature. It is true that instances have been observed, of both diseases, in which spontaneous cure occurred, without any treatment whatever, whether medical or Christian Science. That, though is a very unusual occurrence.

The insinuation that the writer of the article in question, Doctor Dungan (this journal, Nov. issue, page 809), "expresses doubt of his ability to heal a case of pulmonary tuberculosis", is specious; as may be seen on reading the first paragraph of the Dungan article. The history of the case shows that the patient had done well under appropriate treatment, although he was refractory; and that then, on the advice of a Christian Science healer and against the strict injunction of his physician, he had left his bed. A severe hemorrhage promptly proved the justice of the medical advice and the foolishness of the healer's assertion. The patient died because he would not accept and act upon the directions of his physician.

The personal data, concerning the founder and, for many years, head of the Christian Science Church, Doctor Dungan undoubtedly took from Mr. Frederick W. Peabody's book, "The Religio-Medical Masquerade" (Boston, 1910), which was reviewed in the February, 1911, issue of Clinical Medicine. Whatever may be unpalatable in that information, must be laid to the charge of Mr. Peabody who is authority for it.

It would not serve any particular purpose to enter into a controversy as to whether Christian Science is or is not Mesmerism, in fact. The difference claimed to exist by our correspondent is merely based on assertion; and we must confess that it does not impress us as convincing.—Ed.]

TREATMENT OF CANKER

This painful affection, while hardly recognized as any more than a symptom of imperfect digestion on the part of the stomach and bowels, is one which causes the patient to be in continued misery during the time of exist-

ence. It is astonishing how little is said, in accepted works on surgery and medicine of this day, as to some definite plan for relief for the patient suffering from canker. The plan that I have used with universal success is, first to touch with pure carbolic acid, using for an applicator a match or tooth pick and exercising care to avoid cauterizing unnecessarily the surrounding membrane of the oral cavity, and immediately following the application by directing the patient to secure some of the little five-grain tablets of chlorate of potash, usually dispensed in little bottles at the drug-store, and allow one of these medicaments to dissolve in his mouth at six hour intervals.

J. A. DUNGAN.

Greeley, Colo.

DIABETES A BACTERIAL DISEASE?

Diabetes still occupies much of my thoughts. About two years ago, I wrote an article, giving it as my opinion that diabetes is caused by some bacterium, and I gave a report of cases to substantiate my opinion. That article was published in your Journal for February, 1922 (p. 121), and I have often wondered how the profession treated that opinion. I have continued to get good results frm the treatment therein outlined and have the word of others that they have also. One doctor friend wrote me, last summer, that he had used it in twelve cases since reading the article, and that he had good results in all of them.

In that article, were two interesting cases I wish to rewrite, because I have late news from them. "Case 3.—Miss F. C. Age 20. Had never had any severe illness until in the fall of 1918, when she had influenza. Sept. 8, 1919, I found marked leucorrhea, irregular menses, catarrhal nose and throat. Glycosuria was pronounced and had been present for two or three years, according to her father. Her mother had died of diabetes. B. coli, M. catarrhalis and staphylococci were abundant. I gave her a course of Van Cott vaccine. After four months of treatment, the leucorrhea was less. The glycosuria was still present, but she had gained seven pounds. I gave her a diet slip and continued the vaccines. In June, 1920, the glycosuria was gone. She did not follow the diet orders, because they were distasteful to her. The treatment was discontinued for two months, then resumed as a safeguard. At that time, she had gained fifteen pounds".

Three years after the treatment, the patient was well and had no indications of a return of the trouble.

"Case 5.—Mr. E. M. Married. Age 38. Ht. 6 ft. 1 in. Wt. 123 Railroad carpenter. Had ordinary diseases of childhood. In the fall of 1919, he was in the hospital twelve weeks, with influenza-pneumonia. Left the hospital weak and worn, and very much emaciated. Did not recuperate under the usual care and treatment, became deaf and had attacks of blindness. A specialist found no eye or ear trouble and referred the patient to me. A lack of tone marked the whole clinical picture which was typically diabetic. There were a few boils. Glycosuria was so marked that the test solution did not need a second boiling—it turned orange throughout as soon as the urine was added. Sp. G. 1042, and the evaporated urine was syrupy. B. coli, influenza, and two types of diplococci were present. I gave Van Cott vaccine once a week, from March 20, 1920. The patient took up light work the last of May, 1920. I continued the treatment with short periods of rest to October first, when the glycosuria was gone, other symptoms had cleared up, and he had gained thirty-six pounds. He appeared normal in every way, but I gave him five or six more doses of the vaccines."

Over three years after this treatment, the patient was in good health and putting in full time at his trade.

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Since the appearance of my first article, I am more convinced than ever that diabetes is due to some bacterium or to the effects of more than one. The treatment gets results and the patients stay in good health. The profession will be interested in a report of research work along this line by others. In *The Prescriber* (Edinburgh, July, 1922, xvi, 241), A. Renshaw and T. H. Fairbrother show that they have made elaborate study of the source of the acetone bodies eliminated in diabetes, and announce the discovery of an organism responsible for their formation. It has been known for some time that certain bacteria exist which are capable of producing acetone from starch or other carbohydrates, and it is recognized that this particular action is not restricted to one bacterium, but probably is due to a group generally known as "Amylobacter". The authors believe that the products of such bacterial fermentation in the alimentary canal might upset the glycogenic function of the liver, resulting in the excessive accumulation of glucose in the blood, with the consequent overflow elimination by the kidneys. They examined the feces of five diabetic patients and found an acetone-pro-

ducing organism in all of them.

The organism they isolated is a Gram-positive, rod-shaped bacillus, and is a facultative spore-forming anaërobe. It may be found singly, in chains of two to six, or may lie parallel. The authors suggest the name 'Bacillus amyloclasticus intestinalis'. It splits up starchy foods, forming oxybutyric acid, diacetic acid, butyl alcohol, and acetone. Sugar is also formed during this fermentation. This suggests that the alimentary canal is the source of intoxication in diabetes. The organism flourishes in carbohydrate media, and carbohydrates are contraindicated in diabetes. In diabetes, their theory is that fermentation of the carbohydrates occurs in the alimentary canal to such an extent that the glycogenic power of the liver is seriously hindered, which leads to an improper storage of glucose. Treatment, therefore, should be antibacterial and intestinal antisepsis, with general care for other symptoms that may be present. The cases I reported in my former article were of my own diagnosis, except case three.

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Last fall, I came east for study and, while here, opened an office in Cleveland, Ohio. I have treated several cases in which the results have been good. The diagnosis of diabetes had been made and other treatment given before they came to me. Here are two very interesting ones.

Mr. J. S. D. Aged 60. Wt. 150. Manager of a steel manufacturing plant. Was never much sick, nor often. Bowels always active. Operated on for hemorrhoids in 1918. Several years ago, was in bed three months on account of gangrene of the foot and his condition was diagnosed diabetes of severe type. He was put on the proper diet but got little relief and the glycosuria remained constant. I saw him on February 2, 1923. He was very much run down. Temperature and pulse were normal. Stomach and bowels very much distended and he had suffered for a long time on account of this, so that he could not attend to his office more than about one-fourth of his time. Was nervous and slept very little. He had many bad teeth. B. coli and staphylococci were in the urine and glycosuria amounted to 4 percent, with a sp. gr. of 1031. I recommended the removal of his teeth and gave him Lactosal (Milliken), a heaping teaspoon in two-thirds glass of water when needed. On February 8, I began the vaccine and gave him a dose a week. By April first, he was putting in all of his time at his work, was free from the severe gastric trouble, and the urine had only a trace of sugar. His treatment was continued and, on June 17, he was feeling fine. Then I dismissed him for two months. About the middle of July, he had an attack of gastritis on account of indiscretion in diet, and there was a trace of sugar in the urine. I dismissed him with the advice to forget that he had ever had diabetes but to always avoid eating things that disagreed with him. During the last part of his course of treatments, I gave him Pan-Secretin Compound (Harrower). On November first, he reports the results as "wonderful".

Mrs. E. G. Age 52. Married. Had ordinary diseases of childhood and malaria (at 18), otherwise no serious illness. Constipated for years and had bad leucorrhea for years. In 1916, she weighed 180 lbs. but lost weight, so that, by 1920, she weighed only 135. She consulted her physician who told her that she had a bad case of diabetes and put her on a strict diabetic diet; this she had followed until I saw her, March 23, 1923. She was weak and worn, sleeping very little, getting up three or four times every night to void urine. She was very nervous, had a pinched, anxious expression and worried a great deal. Temperature normal. Pulse irregular and not strong. Glycosuria, 6 percent. Sp. gr., 1029. Bacteria in urine and vaginal discharge very numerous, especially B. coli and staphylococci. I gave her pancrobilin (R. & C.) for her constipation, a few local treatments for the leucorrhea and pruritus, faradic electricity plus suggestion for her nervousness. On March 27, 1923, I gave her Van Cott vaccine which I modified by making the B. coli content 2000 millions per cubic centimeter. She received a dose of vaccine once a week. On May 24, she was sugar free and has been so ever since. I saw her last on August 29, and she reported that she was feeling better than she has done for fifteen years and that her bowels were normal. For six weeks, she had an action every day without taking anything, and said she could not remember when it had been so before.

It would be of real interest to hear from other members of the medical profession on this view and treatment. It has given first-class results in all of my cases. It is simple, easy to take and easy to administer, is not dangerous like some other remedies are, does not require the patient to go to the hospital or miss his ordinary duties. There are no diet restrictions other than should be required of any one, and the cost is seldom more for

a full course than it would be for two weeks in a hospital.

Amos T. Fisher.
2005 Carabel Ave., Lakewood, Ohio (Cleveland).

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[Doctor Fisher's experiences and observations are of great interest in that they show that the bacteria contained in the intestinal tract may influence the life processes of the organism very unfavorably and, almost of necessity, do so when the resistance of the organism is reduced by so serious an impairment as diabetes mellitus. We do not take these observations to prove that diabetes is actually of bacterial origin. That idea, we believe, has been definitely disposed of. However, it is undoubtedly true that bacterial action can promote the course of the diabetes and that antibacterial treatments may, in many cases, influence the course of the disease beneficially to the patient.

We are glad to note Doctor Fisher's further report and hope that he will give us additional information in the course of another year or two.—Ed.]

BOOSTING THE PSYCHOLOGICAL

The cob-webbed and dusty corridors of time are strewn with the wrecks of different systems of medical practice. The healing art verily has travelled the rough and rocky road.

Not very much has come down in a concrete way from the "cave-man period" of our existence which relates to the status of the medical practice in vogue at that distant day; in fact, it is pretty well established that there was relatively small need for medical practitioners amongst these, our primeval ancestors. With their well-developed canine teeth, they lived upon raw flesh, taking as dessert fruits and nuts.

Surgery was most likely an art to which the human race of that remote period still had to look forward several thousand centuries. The cave-man's appendix, therefore, was allowed to remain; a good thing for him, too, for, in the process of evolution, the fittest appendices would naturally survive, which accumulated fitness being handed down from father to son, the evolution of the appendix itself was finally accomplished.

It is quite probable that the appendix originally was quite large and a highly glandular organ, and that its secretion, a lubricating mucus, would run well up towards four or five ounces in the twenty-four hours. The organ, therefor, acted much in the relation, to the economy, of an oil bag and, having been wisely placed by nature at the very point where such special lubrication would be necessary (where the ashes of food digested in the small bowel would be dumped into the large bowel, or ash-can), to facilitate its further progress and assist bowel-drainage generally, it was a small matter to the cave-man if he was half-brother to the ox or even a second cousin to the three-toed horse, a small matter if he walked with a decided stoop, his long, muscular arms coming easily into contact with mother earth as he travelled. There was always at least the compensating feature to his existence that he did not wake up almost any night in the midst of a horrible nightmare and dreaming that he was going to have his appendix removed, distressed by fears regarding the validity of the procedure, and apprehensive regarding the probable expense likely to be involved in the business of getting it out!

But, if he had small need for medical or surgical attentions to himself or his family, it is altogether likely that he was also minus the benefits to be derived from the ministrations of the various cults devoted to the business of boosting the psychological. I believe that Coué's simplified dogma would have been within his reach mentally; and, no doubt, he would have taken a childish pleasure in going over the formula keeping track of his rhythmical progress by tapping upon the devoted skull of his newly conquered bride with his stone sledge. If the thing became an emergency, however, and he became pressed for time, it is likely, considering his impulsive nature, as we are given to understand it by the anthropologists, that he would have shortened it up into the more compact, "Oh h..., I'm well!" and gone ahead with the business in hand, whatever it was.

It would be interesting to know who was the first to notice the matter of the relationship in disease which exists between the mind and the body of a human being. Someone, no doubt, who, beginning to practice the healing art after his primordial fashion, perhaps centuries before even graven characters in stone might have been able to perpetuate the name of the discoverer and the nature of the discovery, found it to be a dependable fact that if, while he was treating a patient, he could by the art of conversation make it apparent to said patient that he, the latter, was improving, that he was in fact getting well fast, he

at once could notice that the patient actually did seem to be better as a result of the mental treatment accorded him. And that also in business of separating the patient from the emolument accruing to the doctor could now be accomplished, by the latter, with less than half the amount of physical exercise ordinarily necessary for the purpose. Whoever it was that made this discovery, of so vast importance to the world, is worthy of a niche in the hall of fame. At the very least, he should be hailed as the "Hippocrates of the cults" and a plaster-of-Paris bust of him should be a prominent decoration in the office of every osteopath, every chiropractor, every christian science practitioner, every naprapath, every naturopath and of every other, the real nub of whose system is, to boost the psychological in the patient, irrespective as to name or of the particular style of prod delivered, or of the method of the manipulation by which, so to speak, the aforesaid boost is "rubbed in".

We would not have to go back many centuries, in the history of the practice of medicine as we have it today, to arrive at the point where the schism occurred between the business of treating a patient mentally with the general objects in mind aforesaid and the method of treating one entirely with the material agencies and means. Suffice it to mention here that there has been, for long enough, a divorcement, in effect, between these two departments of medicine. They should be remarried, the officiating clergyman taking occasion to say that the pinheaded frivolity and questionable conduct, morally, which has characterized the divorced wife throughout the centuries, has been approximated if not actually equalled by the monumental stupidity and the asinine obstinacy of the one-time husband!

Let us look over the field and compare the thing as it stands today; of course, touching only the high points, as any more extended survey would be patently out of place in an essay with the limited scope of the present writing.

Imagine yourself, then, a patient ignorant of the medical practice through a happy inexperience with it; a long and healthy career marred only by one or two trivial accidents. But, now, you are in a position where you must be gotten upon the road to health once more and, finally, you vacillate no more, you cast hesitation to the winds and seek help from a recognized Doctor of Medicine. He looks you over sternly enough, and yet, you imagine, a bit pathetically. For, some way, you take him to be a man not altogether without a touch of the sentimental in his make-up. You seem to see a flickering light of sympathy gleam for a moment in his face, but the light goes out; for, as you are soon made to realize, he is also a man upon whom it devolves to support upon his shoulders the accumulated weight of the centuries of traditional dignity and ponderous ethical reserve of the medical practice.

About the time, therefor, that you have made bold to encourage yourself with the idea that you would be permitted to be regarded as a human and personal entity by the learned and dignified gentleman, you look again, only to find that his visage has resumed that lofty air of dissociation with you as a human person, and sadly come to the poignant realization that, alas, you can never be more than a *case* to him! Blighted by such an abysmal plunge into the burning depths of despair, it is a wonder that many a youth doesn't take a header into the lake and *end it all!*

But, instead of that extreme course, we will say that you finally get over the shock, but still have the malady which assailed you in the first place. You decide to try, let us say, a chiropractor. You have no more than crossed his threshold than he literally hugs you to his bosom in the mighty fervency of his welcome. He makes no effort to conceal from you that you have come to the right place, possibly the only place in the world where your case could be properly attended—although he also admits "Not a moment too soon!" He tells you right out that he can make you sound and well. Oh, of course, it may take some time; several months, possibly, to get your various vertebræ hammered back into place. After his examination, he assures you that you have anywhere from seven to fourteen segments of your backbone dislocated and which will require him to give you "daily adjustments" to get them back into their proper alignment again.

The name "dislocation" is not one with which you are altogether unfamiliar. You, in fact, recall an occasion once upon a time when you had your right knee dislocated. Evidently, though, the backbone was not in the habit of making as much trouble as a man's knee when it got dislocated! Why, you could hardly believe that your backbone could be dislocated! You never even felt it when it went out of place. You recall also that you had the old family doctor come over to the house and reset your knee. After this was accomplished,

he put on straps and bandages and other supports around the knee and warned you not to remove them or to allow them to be removed for a certain time, adding also the warning that he would refuse to assume responsibility for the outcome of the case if the supports he had put on were removed before the expiration of the time set.

There seems, however, to be a discrepancy about the treatment accorded you by the old doctor and that proposed by your new friend. No doubt, the latter, you surmise, is anxious to save you all possible expense and finally you suggest to him that, maybe, instead of giving you these proposed adjustments extending over an unlimited time, he might merely set the dislocations in your spine and then strap them in place, you assuring him that he need not worry; that you will see to it that the straps and supports are maintained in position until the day upon which he might propose to remove them.

Now, of course, when this man gave you this warm welcome a few minutes previously, you did not realize that it was not you whom he was hugging thus ardently to his bosom; it was, as a matter of fact, those dollars which he apprehended you had in your pocket or at least over which you were in a position to exercise control. And, now, he beholds to his consternation those said dollars beginning to adjust and plume their wings preparatory to flight! Oh! Would they? Not if this enthusiastic disciple of Palmer, D. Ch., etc., knew his business! Huh! Do away with all those proposed adjustments at three smackers per adjust! Nay, nay. Say not so! You now observe, and the observation unsettles you not a little, that a look of fine scorn has settled upon his formerly unctuous and friendly map.

"Well!" he finally opines with an air of resignation to the inevitable, "I see that I will have to take time to explain all this to you. You see, there is a healing impulse going down the nerve which is impeded by this subluxation. A daily adjustment is absolutely necessary, owing to the impenetrability of the reflex in the ganglionic circulation. As you can see, it would be entirely useless, in view of the metastatic prolongation amounting in fact to a transubstantiation . . ." You give up and tell him to go ahead and speed up the healing impulse on its unobstructed way down your backbone, to the best of his ability!

Every day you return and are rewarded with an effusive welcome, a warm place on his insectiferous table, a great variety of "clicks" up and down your backbone and a charge for the clicks of three dollars.

Every day he tells you how much better you look and how evident the fact must be to even the most superficial observer that you are now at last on *the road to health.*

After these séances, or, possibly, I might better call them liaisons, have run on for anywhere from three to six months and you find yourself apparently as far as ever away from the terminus of the road to health, you begin to wonder if maybe this particular road doesn't run around in a circle. You ask the chiropractor about that and he vouchsafes to you that, while he has found your case a more than usually obstinate one, he has no sort of doubt that he will be able to master it absolutely in from three to six months more. By this time, you are so used to being stung that only the other day a lady, begging your pardon, picked a thread off your back, and you, absently, reached into your pocket handing her three dollars!

You still have to go to the chiropractor every day and, though you don't know it, you are just naturally sold to the idea of listening to his mellifluous voice sounding among the rafters, telling you how much better you are, how obstinate your case *was,* whilst he walks up and down your spine on his knees and ties your hind legs into so many difficult and dangerous knots that it will eventually require the services of three men and a plumber to get you sufficiently straightened out again!

But, to go back to the Medicine Doctor again. It will be a bit like going from the Equator to the North Pole. You find the Pole still there, but it is as cold as ever. What is the answer? The Medical Doctor, representing as he does the traditional conservatism of the ethical doctor in his extreme anxiety to avoid the Charybdis of enthusiasm, betokened by any external signs which might be observable to the patient, at once obliterates all signs of hope in his countenance, and in this manner butts his wise and dignified head into the Scylla of unreasonable, even obstinate and jackassical conservatism. And, as a result of it, he never gets a chance to do you the good which he undoubtedly could do you with his comprehensive knowledge of disease processes and his scientific methods of treatment.

The chiropractor, on the other hand, while using your back for a sounding board, has little that is really helpful in his armamentarium more than just plain talky-talk. At that, there are some undoubtedly helpful

things to be derived in the treatment of certain diseases from the particular type of prod which he has learned to deliver to points along the spine and, by all means, these ought to be incorporated into the regular medical practice and due credit given—where known!

He is the possessor of a hot-air balloon—filled with ordinary human hot-air—which would, however, in the course of time, get cold and fall to lower and lower levels, were he not continually engaged in the business, boosting it up into the warm air of cordiality and hope by continual pats and kicks bestowed where they will do the most good.

I merely use the chiropractic as an example. The hot-air balloon idea is as characteristic of any one of these cults which, as you have seen, depend for their existence upon the cultivation of the personal equation of the patient and their infusion into him of an exalted hope, whether such hope has any actual basis in fact or whether it has not!

It is high time that a more congenial and hopeful atmosphere pervaded the office of the regular practitioner of medicine and it is high time that the chiropractor and his ilk acquired a thorough working knowledge of etiology and of pathology.

J. A. Dungan.

Greeley, Colo.

UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces the following open competitive examination:

Junior Medical Officer

Receipt of applications will close December 18. The examination is to fill vacancies in the position of ward surgeon, at U. S. Veterans' Hospital No. 91, Tuskegee, Ala., at an entrance salary of $2,840 a year, with quarters in the hospital, and vacancies in positions requiring similar qualifications.

Applicants must have graduated from a medical school of recognized standing, or be senior students in such an institution and furnish proof of graduation within six months from the date of making oath to the application; and, in addition, they must have had special training in tuberculosis or in neuropsychiatry for a period of at least three months, either before or after graduation from medical college; or service for a period of not less than three months in a hospital devoted to the treatment of tuberculosis or of mental disease.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. Civil Service Examiners at the post office or customhouse in any city.

A PHYSIOTHERAPEUTIC MEETING

That physiotherapy is no longer to be regarded as a form of treatment to be indulged in only by the quasimedical or irregular practitioner, was evidenced by the attendance of over five hundred physicians at the school of instruction held at the Logan Square Masonic Temple, Chicago, the week of October 15th. The above number represented thirty states, Washington, D. C., Canada, China and India.

While the meeting was arranged and sponsored by H. G. Fischer & Company, the program was entirely devoid of any commercial aspect, being conducted by one of the physicians present along strictly ethical lines.

The program, which consisted of seven lectures, each day of the entire week, was unique in that not a single lecturer failed to appear as scheduled, notwithstanding that many came several hundreds of miles.

The scope of the lectures dealt with X-ray therapy, deep and superficial; Diathermy, medical and surgical, together with the method of application and technic for different kinds of cases; radiant and actinic light, helio and hydrotherapy, with their usages and indications.

Clinics were arranged demonstrating electrocoagulation, or surgical diathermy. Many phases of light-treatments were discussed, particularly their application and advantages in superficial skin lesions and industrial work. In the latter class of cases, the use of physiotherapy methods is very apparent to every physician who has had opportunity to observe results.

While many of the physicians present have been engaged in this line of work for some years, the great majority have become interested more recently. The extent to which they are interested is attested by the fact that an average of four hundred attended every session, and every speaker was besiegd with questions until time was called for the lecture following. The evening sessions, although

Physiotherapeutic Meeting, Chicago, Week of Oct. 15

not announced on the regular program, were also well attended.

The sentiment that emanated from the platform at all times was:

1st. Remember, first of all, that we are physicians and should conduct ourselves as such.

2nd. A careful and painstaking diagnosis is a prerequisite to any form of treatment.

9rd. Physiotherapy is neither new nor startling in its effects, nor a panacea for all human ills; but it is a valuable adjunct in the treatment of many conditions if properly and conscientiously applied.

R. W. Fouts, M. D.

Fischer's Magazine, November, 1923.

[*Concluded from page 887*]

told you, whether I am to blame in the matter? I do not care to write to the hospital. The husband of the woman has made all sorts of extravagant claims against my method of operating. I fear, the hospital surgeons put all the blame on me, from what I have learned indirectly. I ask as a special favor that, if you use this for your Seminar, which I value as a real help to us younger men in the profession, you omit my name.

Requirement: Both queries involved in the foregoing letter are open to free discussion. Please do not exceed three hundred words.

Chicago, 31 North State St.

[*Concluded from page 891*]

previous year and spliced it to the part still on board. The laying was then completed with two cables working. The communication between the two continents was permanently established July 29, 1866.

The monster steamship *Great Eastern* was used in laying the cables.

It is worthy of mention, as an important event, that, at the present time, a new Atlantic cable is being laid from Rockaway to Nova Scotia, to the Azore Islands, to Havre—over 4,000 miles. The astonishing fact about it is, that it can transmit 1200 messages at the same time—600 each way!

* * *

W. H. W. What is the meaning of the word "Booklegger"?

Ans. The word was coined by Diana Rice, a New York newspaper woman, who applied the term to the literary bootlegger—the person who sells suppressed books, literary hootch, not-fit-for-the-home "brew".

* * *

A. S. J. What is meant by billingsgate"?

Ans. The word is used to mean vile and abusive language. The name arose from the fact that, in old London, near one of the gates of the city was a market called Billingsgate Fishmarket. It was conducted by women known as the Billingsgate fishwives who were notorious far and wide for their offensive and abusive language. In time, the word "billingsgate" came to signify unprintable language.

I once listened to a lecture on London by that brilliant man, the late Professor Goldwin Smith, who was a dry humorist. In naming some of the historical spots in the old city he mentioned Billingsgate Market, "where", said he without cracking a smile, "can be heard the English language in its purity from the lips of woman".

ABSORPTION OF DRUGS THROUGH THE EYE, EAR, TEETH AND ESOPHAGUS

In the September issue of *The Journal of Pharmacology and Experimental Therapeutics,* Prof. David I. Macht reports on a series of important experiments in which he attempted to determine the degree in which drugs are absorbed through the eye, ear, teeth and esophagus. In earlier communications, Doctor Macht published some investigations on the same subject, especially in connection with the question of absorption through the bladder, urethra, ureters, vagina and other genito-urinary organs.

As to the point here under consideration, the experiments described are sufficient to prove, the author declares, that drugs may be absorbed through various out-of-the-way channels. Perhaps the most interesting experiments are those described in connection with the eye. Absorption through the conjunctiva was very strikingly illustrated in two anesthetized animals with such drugs as aconitine and potassium cyanide and in unanesthetized animals with apomorphine and morphine. It was proved conclusively that this absorption could take place even with the nasal ducts occluded; in other words, through the blood vessels and lymphatics of the eye. Absorption through the ear is both of clinical and historical interest. The use of carbolic acid in the ear is very common and, while such a practice may often be very beneficial, the clinician should bear in mind the possibility of excessive absorption through the tympanic membrane. The historical interest of absorption through the ear has been discussed by the author elsewhere in connection with his paper in reference to poison in Shakespeare's Hamlet. Absorption through the gums and dental root canals is common enough but has not been sufficiently emphasized. Finally, absorption experiments on absorption through the esophagus illustrates a difference between the esophageal mucosa and the gastric wall which is not unlike the difference noted between the walls of the urinary bladder and urethra. The author has already shown that, while drugs are very easily absorbed through the urethral walls, they penetrate very poorly through the bladder wall. The main conclusion drawn from the investigation is the practical one, namely, that great care should be taken by the clinician in determining the limits between a purely local effect and systemic symptoms produced by absorption of drugs applied locally. This delimitation may determine the difference between the therapeutic and the toxic action of many substances.

INCREASING VIRULENCE OF SMALLPOX

For many years, we had enjoyed an almost total immunity against smallpox, which was owing to the general vaccination of the people. It is true that here and there sporadic cases and even small, limited endemics occurred, but these were promptly controlled through the action of the U. S. Public Health Service in cooperation with the local health authorities.

Partly owing to the antivaccination propaganda of interested agencies, partly through the carelessness on the part of many people who refused to have their children vaccinated, and (perhaps, or at least we believe) partly through the immigration of many people from southern Europe and the Balkan states where vaccination is not practiced as thoroughly as in the central and western states of Europe and in this country, smallpox has recently shown signs of becoming more severe.

From U. S. *Public Health Reports* for June 22 (p. 1406), we copy the following:

"From time to time, mention has been made in *Public Health Reports* of the fact that smallpox is apparently increasing in virulence in this country. Two notable outbreaks of the virulent type of the disease were reported in the United States during 1921 and 1922—the outbreak in Kansas City (Kan. and Mo.) in the late summer of 1921, and that in Denver, which continued from the fall of 1921 through the winter of 1922, the fatal and highly contagious strain of the disease prevailing throughout the summer and breaking out characteristically with the advent of the cooler season. In Denver, during 1922, 660 cases with 226 deaths were reported to the United States Public Health Service by the city health officer. The direct source of the Denver outbreak may have been the same as the unknown source of the Kansas City outbreak.

"The Statistical Bulletin of the Metropolitan Insurance Company for April, 1923, calls attention to the fact that, according to reports received from the health officers of 275 cities in the United States and Canada, the case-fatality rate for smallpox during 1922 was five times the rate for 1921."

What Others are Doing

CEREBROSPINAL SYPHILIS
An Intensive Study of One Single Case

To the general practitioner, the occasional reports, published in journal literature, of "one thousand cases" of one thing and another, afford but limited benefits. Such studies usually give percentage results and contain relatively slender information as to individual peculiarities of cases under consideration. Altogether, it may be questioned whether this kind of report serves any real practical purpose.

We have frequently claimed, and our position has been confirmed by well-known clinicians on more than one occasion, that the intensive study of a single case may be productive of far greater benefit than the mass-study of great numbers of cases. Usually, to the general practitioner, the investigation of one or a few patients afflicted with a certain malady is of much greater benefit, the more so as the general practitioner does not often have numerous cases of a single disease; and, when he does, during epidemics, conditions are such that detailed investigation of the individual patients is all but impossible.

These considerations are dictated by a report that came to our attention, presenting an intensive study of an interesting case of cerebrospinal syphilis, showing unusual symptoms and illustrating the value of spinal drainage following the intravenous administration of arsphenamine. The report of this case was presented by Dr. Henry Pleasants, Jr., of West Chester, Pa., to the Section on Surgery of the Medical Society of the State of Pennsylvania (*Atlantic Med. Jour.*, Aug., 1923, p. 728). We believe that reprints can be obtained of this interesting paper and we hope that the reprints include the discussion which was of equal importance and instructiveness with the paper itself.

The author declares that, while the symptoms of syphilis, the adenopathies, dermatoses, etc., quickly subside following the intravenous administration of arsphenamine, it is yet to be proved whether or not the disease is actually cured by this treatment; that is to say, whether or not the spirochetes are all killed.

The Wassermann reaction has been an invaluable aid in the diagnosis and treatment of syphilis. But, again, the persistence of a positive Wassermann reaction following intensive treatment has brought up the question as to whether or not this reaction is absolutely dependable. Some cases where the Wassermann has remained positive in spite of a prolonged course of intensive treatment have been termed "Wassermann-fast," leaving however, considerable doubt in the minds of clinicians as to the efficacy of the treatment.

Pleasants cites Solomon (*Arch. Neur. & Psych.*, Feb., 1922) who concludes, from a résumé of the results of many observers that there is no uniformity of opinions concerning the value of treatment in the various types of neurosyphilis. There is no definite evidence to show which methods are the most satisfactory and, indeed, the majority of the reports concerning treatment were unsatisfactory. Pleasants correctly believes that, in the study of neurosyphilis, the most valuable information is obtained from a very intensive study of a comparatively few cases rather than a superficial study of a large number. In support of his opinion, he cites a single case.

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A machinist, white, married, thirty years old, complains of severe occipital and general headache. The previous medical history is largely negative excepting for measles in childhood and tonsillitis every fall. The patient has been under weight all his life and, for many years, he had a palmar eczema resisting all forms of treatment.

Having married in May, 1919, he acquired a luetic infection in November of that year, with a primary sore and secondary rash. The family history is not conclusive, although there is suspicion of syphilis having existed in the father. The patient's luetic infection can not be traced to any known exposure.

Secondary eruption, December, 1919, with definite mucous patches, sore throat and falling hair. Examined at a skin dispensary and then treated at a genitourinary clinic. Wassermann being 4 plus, a series of ten intravenous injections of neoarsphenamine was given, leading to a Wassermann "delayed negative."

A second series of eight injections of neoarsphenamine caused the Wassermann to become negative. After a third series of eight injections, the Wassermann was still negative and the same result was recorded after a fourth series of eight injections.

During this course of treatment, the patient began to have headaches which were relieved temporarily by the injections, but, eventually, came on with greatest violence during the night. The injections were followed by vomiting and the patient sometimes became irrational. In spite of about sixty doses of the arsenical, the headache increased steadily in severity. When Doctor Pleasants examined him first, he found tachycardia, with a pulse of 142; marked indicanuria; much bile in the urine; exaggerated reflexes. The biliary stasis was relieved by drainage after the method of Lyon. Culture of the bile showed neither streptococci nor typhoid group organisms. After the biliary drainage, the indican disappeared and the headaches improved. There was no ataxia and the gait was normal, also sensation. During severe attacks of headache, articulation was greatly interfered with.

The blood showed a red blood cell count of 4,240,000; white blood cell count, 7,990; hemoglobin, 80%; polynuclears, 75; lymphocytes, 21; mononuclears, 2; eosinophiles, 1; transitionals, 1. The blood Wassermann was negative. The spinal fluid, of which between 20 and 30 Cc. were withdrawn under considerable pressure, was clear, without flocculi or sediment. The total cell count was 200 per Cc. Polynuclears, 20%; lymphocytes, 80%; Wassermann, 4 plus; globulins, 4 plus; sugar, negative; tubercle bacilli, negative.

The withdrawal of spinal fluid was followed by great improvement. X-ray examination of the teeth disclosed some troubles which were remedied, with temporary improvement. The same is true of refraction of the eye. After a few weeks, the headaches returned with increased severity.

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After consultation, weekly spinal drainage was done for one month. The total cell count then fell to 65% but without improvement. A course of intramuscular injections of 1% biniodide of mercury in 1 Cc. doses, every three days, did not bring relief. The spinal Wassermann remained 4 plus.

Intravenous injections of 2-Gram doses of sodium iodide in normal saline solution preceding the spinal puncture were unsuccessful.

At the suggestion of Dr. Edward Kerr, intravenous injection of neoarsphenamine combined with spinal puncture was undertaken. 0.9 Grams of neoarsphenamine was administered and, fifteen minutes later, from 40 to 50 Cc. of spinal fluid was withdrawn under tension. The moderate reaction, of chill, headache and nausea, disappeared within a few hours and was followed by marked improvement. The treatment was repeated one week later, with comparatively slight reaction. The total cell count fell to 15 per Cc. and a further treatment brought this down to 10. The spinal Wassermann now was 2 plus. Globulin negative.

By this time, the patient had clinically recovered; the headaches had disappeared and he was able to resume his work. After four weeks, another series of three treatments was given, in one of them no spinal fluid was obtained. This was one year ago and, so far, the symptoms have not returned.

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Doctor Pleasants calls attention to the importance of routine examination of the spinal fluid in syphilitics, even after an intensive course of treatment and even though the blood Wassermann may be negative.

He insists upon the value of intravenous treatment with neoarsphenamine followed by spinal drainage.

He points out how rapidly the central nervous system may become involved following infection.

The case history shows the possibility for a patient with active cerebrospinal syphilis to become a parent of an apparently healthy child and avoid conjugal infection.

There exists the possibility, although remote, that this patient had latent hereditary syphilis. This is sugested by the vague history of the father and by the fact that the patient himself had suffered from palmar eczema.

The points made by Doctor Pleasants in his paper were brought out and emphasized in the very interesting discussion in which, however, the fear was expressed that cerebrospinal syphilis was not amenable to treatment, no matter of what kind. Attention was called to the necessity of early intensive treatment immediately on the appearance of the primary sore and also to the associations of cutaneous manifestations and cerebrospinal syphilis. The paper is well worth careful study and may serve as an example for us as to how to study our difficult cases.

CARDIAC FAILURE

In a lecture on cardiac failure, delivered to

the North Wales Branch of the British Medical Association (*B. M. J.*, Nov. 11, 1922, p. 899), Dr. John Hay characterizes the present position of physicians in relation to cardiac failure as unsatisfactory, first, because there is a disinclination to face the necessity present in each case of determining the exact cause of the failure and adopting the treatment to meet the special need of that patient; and, secondly, because there is not a clear conception as to the real value and therapeutic action of the various drugs used. He insists that some of the drugs used have a wholly fictitious reputation and continue to be administered with a simple, blind faith, harbored by both doctor and patient.

In order to solve the problem, it is necessary to study heart failure and to inquire just what influence is exerted upon it by various methods of treatment. As has been pointed out by other writers, the commonly-accepted meaning attaching to the term heart failure is not quite correct. It really means an inability on the part of the heart to accomplish its work satisfactorily. In other words, failure begins when the heart ceases to respond adequately to the normal calls upon its reserve power, when it fails to rise to the occasion.

In incipient heart failure, be it understood, the symptoms may be entirely subjective and it may be impossible to discover any objective irregularities or anomalies of the heart beat. Cardiac pain may indicate cardiac failure and often is characterized as "indigestion." This is felt, more usually, after breakfast, and causes the impression of a lump behind the breast bone; it is associated sometimes with flatulence. This, like other subjective sensations, is aggravated by effort and eased by rest.

Another subjective symptom may be an aching pain at the angle of the left scapula or pain in the left elbow or wrist or arm. These pains should not be passed off as being due to neuritis or rheumatism; their cardiac origin is suggested by their relationship to effort. Indeed, the patient may tell that, if effort is persisted in, definite precordial or substernal pain begins to manifest itself, accompanied by dyspnea. One very striking symptom is a sensation of weight in the arm, more often the left, associated with an inability to carry parcels. Such symptoms are almost invariably intensified by increased exertion and yield to rest. This fact is an important diagnostic guide.

Shortness of breath may be the first indication of a failing heart. It may or may not be accompanied by precordial discomfort or actual pain. Alteration of pulse is an objective symptom of decided significance.

After discussing the various types of cardiac failure, of which he differentiates six, Doctor Hay enumerates the various drugs that are commonly used in this condition. He comes to the conclusion that strychnine and alcohol probably have no direct stimulating effect on the heart and that camphor falls into the same category.

The caffeine group, including theobromine and its compounds, has undoubtedly an influence on the heart and circulation which may be of service under certain conditions, especially when the failure is associated with edema.

It is just as well to face the fact, Doctor Hay says, that we have very few drugs which can be relied upon to act as specific cardiac stimulants, and even those with an assured position act satisfactorily only in the absence of severe toxemia.

He says: "the less we rely on 'cardiac tonics' the more attention shall we give to those features in the management of the patient by which the heart can be saved from strain; the more shall we attempt to delay cardiac failure in the acute infections by dealing directly with the toxemia; and the more shall we make every effort to maintain the quality of the blood at a high level in chronic valvular disease and thus supply the heart with an adequate blood stream.

"In treating cardiac failure, I would urge that the discussion of the particular cardiac tonic to be administered should come last and not first, and that certain other lines of attack should receive full consideration. It is of primary importance to diminish the number of beats. Physical rest and freedom from excitement and worry will do this. At the same time, there are many patients suffering from valvular disease and other forms of cardiac disability whose reserve power can be immensely improved by exercise, and to increase the reserve power is to diminish the liability to cardiac failure.

"Hearts, like individuals, soon 'get out of order', and the habit of rigidly restricting the amount of effort and exercise, for no better reason than the existence of a murmur, is to induce with certainty a condition of diminished reserve power. The symptoms of distress in such patients are not the result of the disease but of the treatment. To make matters worse, many of these unfortunates become introspective and apprehensive about them-

selves; their outlook on life is altered, and they deny themselves all reasonable exercise for fear of straining their hearts or of inviting a sudden death.

"Serious attempts must be made to give these neuropaths more confidence in their powers. For such, dancing is an excellent form of exercise and is being largely employed in America. Most people enjoy it; the periods of actual dancing are short, the exercise is intermittent, and the degree of physical effort is small. It is difficult to overestimate the value of the delight in the dancing itself as a form of mental therapy.

"Exercise accompanied by enjoyment is of far more value than specified active or passive movements according to time table, though it is obvious that the latter can be more carefully graded. There are many occasions in the more severe degrees of cardiac failure where treatment of this kind is valuable, but as a general rule exercise should be a joyful performance if the maximum benefit is to be obtained. The inclination of the patients must be considered, and the opportunities presenting themselves will in any particular case enable a pleasant and appropriate scheme of recreation to be drawn up.

"Anything interfering with the freedom of the respiratory movements must be remedied. Especially is this so in cases of pneumonia, when so much depends on a free excursion of the diaphragm; abdominal distension must be dealt with drastically. In non-febrile cases, a hydrothorax must be looked for and paracentesis carried out if required.

"Then sleep is essential, and I think it difficult to overestimate the great value of opium in the severer degrees of cardiac distress, and of the hypnotics, such as the bromides and chloral and chloralamid, in the milder manifestations. We must not forget that the 'foster-nurse of Nature is repose'.

"The vigor of the myocardium can be maintained only when the blood supply through the coronaries is ample and of good quality. Hence, the optimum blood pressure must be maintained even if it be relatively high.

"The soundest treatment of all for many patients is the prolonged administration of hematinics. There is no better cardiac tonic to those suffering from valvular disease of the heart or chronic renal disease with arteriosclerosis than a liberal supply of first-class blood to the failing myocardium."

BARBITAL ABUSE

We are informed, by the *American Registered Pharmacist's Journal,* that the California State legislature probably will enact a law to make it necessary for a customer to have a prescription from a licensed physician before barbital (veronal) may be obtained.

Many institutions and societies as well as hospitals and physicians have appealed to the State of Pharmacy for a regulation of the sale of this substance due to the unrestrained use of it. Many deaths are reported from the use of too much barbital.

While the open sale of barbital is being regulated, might the restrictions not be extended to such popular, abused drugs as aspirin? We use the trade name for acetylsalicylic acid designedly, for it is under that designation that this drug is known. It must be considered that it has become known and popular through the agency of physicians themselves. However, since acetylsalicylic acid has been produced in this country, a deliberate advertising campaign for "aspirin" has been undertaken and this drug is now being advertised to the public as generally and with as many claims as was antikamnia, many years ago. The firm that floods the market with "aspirin" in convenient little containers seemingly does not care anything about the possible harm that may follow its indiscriminate use; nor does it seem to pay heed to the fact that analgesic drugs are invariably and inevitably abused if employed without restrictions.

If restrictions are called for at all, they should be inclusive and, if the dear public has to be kept in leading strings, these may as well be made fully effective.

THE INHALATION OF VEGETABLE DUST, MILL FEVER

Various forms of hay fever result in large part, at least, from the inhalation of the pollen of plants. Injurious effects are similarly produced by the inhalation of vegetable dust in factories. The vegetable fibers used in the manufacture of clothing are cotton, jute, flax and hemp. In the preparation of all these fibers and in the mechanical processes necessary to their conversion into cloth more or less dust is produced. Formerly a large percentage of the workers making up these vegetable fibers constantly inhaled the finely divided dust while at work in the factory. Many of the beginners suffered from a low fever known as "mill fever." Some of them acquired asthma in much the same way that this disease is caused by the inhalation of pollen. —*Hygeia.*

"COMMON COLDS" AND OTHER RESPIRATORY DISEASES

The diagnosis, "just a cold", is about as foolish a one as can well be made. "Colds" are too often stepping stones to serious ailments and to permanent impairment of health. Potential seriousness of "colds", as also, of course, of influenza and similar conditions, is fully recognized by medical men, but it has hardly come to the general consciousness in what degree these conditions may be responsible for suffering, loss of time, disability and even death. There are many, too many individuals who suffer from some acute respiratory condition at least once a year, losing from a day to a week or more as a result, to say nothing of the miserable feeling which such condition entails. Some of these attacks develop into chronic inflammations, middle ear disease leading to deafness, mastoid disease, occasionally meningitis, and at times a latent pulmonary tuberculosis is lighted up as a result of one of these acute disorders.

We are informed that the U. S. Public Health Service has undertaken a detailed study of common colds and other minor respiratory diseases and influenza in an effort to gather morbidity data over a sufficient period of time and over a large enough geographical area to render these studies of value in attempting to prevent these affections. Comparatively little is definitely known as to the real causes, distribution, manner of spread, and epidemiology of these socalled respiratory ailments, nor of inter-epidemic influenza, because these diseases do not appear in ordinary morbidity reports. These studies are the first of their kind to be taken up on such a scale.

To collect these respiratory histories, both negative and positive, certain groups of colleges have been selected where active cooperation has been obtained by circularizing and enlisting the support of the students in reporting to the Public Health Service twice a month their respiratory experiences—whether or not they have had colds, bronchitis, tonsillitis, or influenza, for the two weeks' period covered by the report. Preliminary data are also collected relative to the incidence of influenza among those reporting, during the 1918 epidemic, whether or not they have been subject to chronic nose and throat trouble, the nature of underwear worn, ventilation of quarters during sleeping hours, and the like.

This work will be actively undertaken at Harvard University, Boston; Johns Hopkins Medical School, in Baltimore; Georgetown and Howard Universities, of Washington; Tulane University, of New Orleans; Ohio State University of Columbus; University of Chicago at Chicago; and the University of California at Berkeley. By this selection of colleges, groups of individuals living in all sections of the United States will be enlisted and comparative studies made relative to the true occurrence of common colds and, among other things, influenza, at the places mentioned. It is hoped to determine the relation that the common cold bears to influenza.

It is anticipated that these studies will extend over a period of two or three years, and that the results will give a more definite idea of the epidemiology of respiratory disorders.

HYPERTENSION IN WOMEN

Woman is evidently subject to high blood pressure, for the same reasons as man is. In addition to that, it has been asked whether there are reasons that determine the symptom complex of high blood pressure in woman more frequently than in man. Continued systematic investigations have actually shown this to be the case, as is observed by Dr. David Riesman (*Le Monde Médical*). Riesman declares that, in woman, one may observe often a form of hypertension that may be called "essential", since it is independent of any renal or vascular lesion. Its causes are multiple and are associated largely with the genital apparatus; other cases may stand in relation to constipation which is common in women, and to a tendency to worry, which would determine the psychic cause. According to Riesman's findings, women afflicted with this form of hypertension are frequently between fifty and sixty years old and have passed through several confinements.

Ordinarily, this "essential" hypertension is tolerated remarkably well. The kidneys and the arteries are found to be sound. The reaction of the heart, leading to the hypertension, has given rise to a hypertrophy, especially of the left ventricle. The hypertension causes discomfort only occasionally. Still, it is important to inaugurate at least a gentle form of treatment. This treatment will be largely hygienic, consisting in the regulation downward of the quantity of food, in the taking of graded exercise and in some form of hypdrotherapy. As for medicinal agents, Riesman has limited himself to two remedies, namely, corpus luteum, especially if the trouble is connected with the menopause, and iodine, which is administered in small doses.

Among the Books

SPRIGGS: "DUFF HOUSE PAPERS"

Duff House Papers. Edited by Edmund I. Spriggs, M. D. Volume One. Illustrated. London: Oxford Medical Publications. Price $9.50.

Duff House in Banff, Scotland, is a splendid building in the Renaissance style of architecture erected between 1739 and 1745 and belonging to the Duke of Fife. Some years ago, the late Duke of Fife presented Duff House to the citizens of Banff and Macduff and, in 1913, the building was remodeled and adapted to the needs and conveniences of a hospital which is devoted to the treatment of diseases of nutrition.

Under present circumstances, when diabetes mellitus and insulin are in every physician's mind, the most attractive features of this volume of "Duff House Papers" are, easily, "The Patient's Manual of Diabetes", in twenty chapters which, printed as a separate volume, is given to suitable patients at Duff House; then, "Some Observations on the Blood-Sugar in Diabetes"; "The Fasting Treatment of Diabetes"; and "A Case of Pancreatic Insufficiency". There are other interesting communications contained in this volume, among which we might quote a paper on "Duodenal Diverticula", and one on "A Case of Spastic Constipation".

The volume is beautifully printed and generously illustrated. It bears witness to the excellent work that is done in Duff House.

BOAS: "HABITUAL CONSTIPATION"

Habitual Constipation, its causes, consequences, prevention, and rational treatment. Set forth in non-technical language. By Ismar Boas, M. D. Translated by Thomas L. Stedman, M. D. New York: Funk & Wagnalls Company. 1923. Price $2.00.

This book is written in a popular style rather than as a strictly scientific treatise, and that is well. It is equally of service to physicians and to the laity. The Reviewer has read it with distinct benefit and many facts about constipation have been recalled to his mind that, while not exactly forgotten, had disappeared from his consciousness. We can cordially recommend the book, literally, to everybody concerned.

MEDICAL CLINICS OF NORTH AMERICA

The Medical Clinics of North America (Issued Serially, one number every other month). Volume 7, Number 2. September, 1923. By Chicago Clinicians. Philadelphia: W. B. Saunders Company. Price, per clinic year (July, 1923, to May, 1924), Paper $12.00; Cloth $16.00.

The Chicago Number of "The Medical Clinical of North America" is full of good things. That is nothing unusual in this splendid publication. However, we are specially gratified because it shows what a fine medical center Chicago is.

Isaac Abt discusses the Nature and Treatment of Collapse in Infancy and Childhood.

Charles L. Mix has an article on Duodenal Ulcer Combined With Cholecystitis.

Charles Spencer Williamson deals with: Acute Lymphatic Leukemia (Small-Celled Type); Purpura Hemorrhagica; Hodgkin's Disease (Abdominal Type).

Frederick Tice together with Vincent H. O'Conor has an article on Disease of the Upper Urinary Tract Without Referable Symptoms.

Walter W. Hamburger tells us something about Acute Cardiac Psychoses; Clifford G. Grulee about The Care and Feeding of Premature Infants.

Peter Bassoe offers a discussion of Epilepsy with Report of 200 Cases Seen in Private Practice.

There are many other articles in this number, and all are good.

WORKMEN'S COMPENSATION ACTS

Workmen's Compensation Acts in the United States. The Medical Aspect. Research Report Number 61. National Industrial Conference Board. New York.

Physicians who are employed by patients who suffered accidents or injuries in the course of their work should be interested in this publication, equally whether they are employed as family physicians, by the patients themselves, or as regular attendants by the employers. The text of the report can not be abstracted. Still, we do not wish to fail to announce its appearance.

FALTA-MEYERS: "ENDOCRINE DISEASES"

Endocrine Diseases Including Their Diagnosis and Treatment. By Wilhelm Falta. Translated and Edited by Milton K. Meyers, M. D. Third Edition. Philadelphia: P. Blakiston's Son & Co. 1923. Price $8.50.

This monograph, in which the clinical aspects of the diseases of the ductless glands are discussed, is well known to the medical profession. The present edition is by far more complete than the preceding ones, because of the diligent study of numerous contributions to literature that had to be worked up. The study of the endocrine glands, their influence upon the physiological processes, both normal and abnormal, is intensely interesting. We are convinced that the future will add materially to what we already know concerning the endocrine problems, and that is by no means small. While our knowledge can not be said to be perfect or absolute in all points, it is quite definite in many respects. At any rate, these conclusions are suggested strongly by our clinical results.

There is one thing against which the Reviewer should wish to warn physicians and that is, the uncritical administration of endocrine substances. In every case, indications should be determined and the remedies should be administered with care, their effects being watched diligently. In this way, our knowledge in this chapter of medical practice can be enlarged and completed.

STARLING: "ALCOHOL"

The Action of Alcohol on Man. By Ernest H. Starling, M. D. With Essays by others. London and New York: Longmans, Green and Co. 1923. Price $4.50.

Professor Starling's discussions concerning the action of alcohol on man can be read with equal benefit by those who oppose prohibition and by its promoters. Professor Starling's position in the scientific world is guarantee of his sincerity of purpose, the honesty of his work and the unbiased attitude of his mind. For the same reasons, his conclusions must be accepted as authoritative, unbiased and correct.

Professor Starling finds that alcohol is, without a doubt, a food; not one, however, that promotes the ability to do heavy work. Indeed, where it has been possible to make a comparison between gangs, the men doing heavy work when allowed the free use of alcoholic drinks during the work and the others debarred from such drinks, it has always been found that the performance of the abstinent gang was superior and attended with less fatigue. Nevertheless, under certain conditions, for instance, in diabetes, the food value of alcohol is of distinct benefit, since here the patient can oxidize it while he is unable to oxidize sugar. Further, Starling considers alcohol to be useful as a food in the weakness of old age and in some other cases of disease because of its ease of absorption and the fact that it does not require digestion.

"There is nothing inherently good about a stimulant and nothing inherently bad about a narcotic. Each may have its value in the proper dose and under appropriate conditions, and our study of the effects of alcohol enables us to judge what are the proper conditions for its employment. In the first place, we can say that it is unsuitable for the highest mental efforts, or during the performance of prolonged muscular feats. But in many individuals the control by the highest centers is developed to an excessive degree, so that it may actually interfere with the carrying out of complicated acts acquired by constant practice. To such individuals, it is relaxation rather than increase of tension or of nervous excitement which is required, if they are to attain their optimum performance, and a smaller dose of alcohol may result in an improvement of efficiency."

Altogether, Professor Starling's investigations have convinced him that, in a civilized society, such as ours, the abolition of all alcoholic beverages from our midst, even if carried out by universal consent, would be a mistake and contrary to the permanent interest of the race. If it were enforced by legislation against the wishes and convictions of a large proportion of the members of the community, he believes it would be little short of calamity. While it would not result, in the long run, in the improvement of national health and efficiency, it would diminish that respect for the law and that identification of self with the law which are essential for the stability and welfare of a democracy.

THE ROCKEFELLER FOUNDATION

There are two publications from The Rockefeller Foundation before us. The one is entitled "International Health Board", Ninth Annual Report, January 1, 1922, to December 31, 1922. This report deals, after the historical introduction, with the campaigns against yellow fever, malaria, hookworm, with the extension of county health work, the de-

velopment of public health laboratories, and various other phases of health work that concern medical practitioners intimately.

The second publication before us contains a review for 1922 and a summary for the first decade of the work of the Foundation. It was prepared by George E. Vincent, President of the Foundation.

NOGUCHI: "LABORATORY DIAGNOSIS OF SYPHILIS"

Laboratory Diagnosis of Syphilis. A Manual for Students and Physicians. By Hideyo Noguchi, M. D. Illustrated. New York: Paul B. Hoeber, Inc. 1923. Price $7.50.

This is a very useful guide for the carrying out of various laboratory methods that have been proposed for the recognition of syphilis. Especially the study of the serum reactions and the proper evaluation of laboratory results present difficulties to physicians. A careful study of Noguchi's discussions will help toward a better understanding of the problems involved.

NATIONAL RESEARCH COUNCIL

The *Bulletin of the National Research Council* for July, 1923, contains an article on the "Causes of Geographical Variations in the Influenza Epidemic of 1918 in the Cities of the United States.

A copy of the Reprint and Circular Series of the National Research Council contains a Statistical Study of Tuberculosis Mortality in Colorado for the Thirteen Years 1908 to 1920, which originally appeared in *The American Review of Tuberculosis* for August, 1923.

The "Bulletin" is published at irregular intervals. The subscription price, postpaid, is $5.00 per volume of approximately 500 pages. Numbers of the "Bulletin" are sold separately at prices based upon the cost of manufacture. Address, Publication Office, National Research Council, 1701 Massachusetts Avenue, Washington, D. C.

STONE: "BLOOD CHEMISTRY"

Blood Chemistry Colorimetric Methods for the General Practitioner. With Clinical Comments and Dietary Suggestions. By Willard J. Stone, M. D. New York: Paul B. Hoeber. 1923. Price $2.25.

Information that can be procured only through laboratory tests and for the continued control of the treatment, with a practical knowledge of the most important laboratory methods, is essential for the medical practitioner. In the opinion of the author, it is the time required for carrying out these laboratory tests rather than the cost of apparatus or reagents that is an important factor. However, he believes that a well-equipped small laboratory can do quite as satisfactory work as the large-scale performance of tests in public laboratories; and there is an added advantage that the physician may modify and improve his own methods and check his own work.

At any rate, a guide for carrying out important laboratory methods for the examination of blood chemistry undoubtedly is of great service. Recent developments in the treatment of diabetes (to take out only one instance) have shown the essential nature of such studies so clearly that physicians are becoming more inclined to devote time and attention to these somewhat difficult subjects.

ABDERHALDEN: "ARBEITS-METHODEN"

Handbuch der biologischen Arbeitsmethoden. Unter Mitarbeit von 500 bedeutenden Fachmännern herausgeben von Geh. Med.-Rat Prof. Dr. Emil Abderhalden. Berlin und Wien. Urban & Schwarzenburg. 1923. Abt. IV. Blutuntersuchungen.

This latest portion of Abderhalden's important work contains seven articles on the examination of blood as follows:

H. J. Hamburger: Determination of the Resistance of Red Blood Corpuscles. Emil Reiss: Refractometric Examination of the Blood. H. Kleinmann: Colorimetry. Nephelometry in the Biochemical Laboratory. R. Fåhraeus: Suspension Stability of the Blood. R. Degkwitz: Methods for the Examination of Blood Platelets. H. Schlecht: Microscopy of the Blood. E. Frank and S. Seeliger: Methods for Examining the Hematopoietic organs.

POTTENGER: "SYMPTOMS OF VISCERAL DISEASE"

Symptoms of Visceral Disease. A Study of the Vegetative Nervous System in Its Relationship to Clinical Medicine. By Francis Marion Pottenger, A. M., M. D. Second Edition. Illustrated. St. Louis: C. V. Mosby Company. 1922. Price $5.50.

There is no better way of recalling to our minds the purpose in the scope of this remarkable book than to reproduce a portion of the preface to the first edition: "An attempt is made", the author said there, "to interpret so far as may be possible in terms of visceral

neurology, symptoms which are found in the everyday clinical observation of visceral disease. It is a study of visceral disease not from the standpoint of the *disease process*, important as that is, but from the no less important standpoint of the *patient* who has the disease. It is an attempt to show how pathologic changes in one organ affect other organs and the organism as a whole, through the medium of the visceral nerves. In contradistinction to the usual treatment of disease processes in their pathologic anatomic relationships, this is a study in pathologic physiology. It is largely a discussion of 'viscerogenic' reflexes; and, as such, causes us to examine somewhat carefully into the problems connected with the vegetative nervous system. It aims to show the importance of careful clinical observation and analysis."

The immense importance of the sympathetic nervous system is fully brought to our consciousness. New viewpoints are opened up and a devoted study of this book can not fail to increase greatly our ability to be of service to our patients.

HAWK: "PHYSIOLOGICAL CHEMISTRY"

Practical Physiological Chemistry. A Book Designed for Use in Courses in Practical Physiological Chemistry in Schools of Medicine and of a Science. By Philip B. Hawk, M. S., Ph. D. Eighth Edition, Revised. Philadelphia: P. Blakiston's Son & Co. 1923. Price $5.00.

We congratulate the author on the fact that new editions of his excellent book become necessary at such frequent intervals. We are informed that, in the present eighth edition, the bulk of the new matter has been introduced under the section on blood analysis, acidosis, quantitative urine examination, vitamines, and kidney function.

It is not only as a guide for the doing of laboratory tests that Doctor Hawk's book is of service. We are, ourselves, using it as a reference book which affords light on a great many questions that present themselves to us.

FARR: "LOCAL ANESTHESIA"

Practical Local Anesthesia and Its Surgical Technic. By Robert Emmett Farr, M. D. Illustrated. Philadelphia: Lea & Febiger. 1923. Price $8.00.

The author deplores that the conservatism of medical practitioners has prevented a more general and prompt acceptation of local anesthesia despite its numerous and undoubted advantages over general anesthesia and notwithstanding the fact that the dangers inherent in the employment of local anesthetics are less than those connected with general anesthesia. His book, which, incidentally, is dedicated "to that unfortunate individual, the patient who, fate has decreed, must undergo surgical treatment", is a large and detailed textbook and impresses us as being very complete. Not only surgeons but also general practitioners who do surgery should study it.

THE LANCET CENTENARY NUMBER

The Centenary Number of the *Lancet* (London) bears the date of October 6, 1923, and commemorates the one hundredth anniversary of this well-known medical periodical. In addition to the customary addresses, articles, notes, reviews, etc., it contains a special supplement and a brief historical sketch dealing with the one hundred years of its activities.

The number is well worth owning for its own sake and can be bought for the price of one shilling.

"THE ENDOCRINE SURVEY"

The Endocrine Survey is published by The Survey Publishing Co., Glendale, Calif., and is edited by Dr. Henry R. Harrower. It appears as a continuation of *The International Digest of Organotherapy* and *The Organotherapeutic Review*. This little journal is published monthly at a subscription price of $1.00 a year. The contents of Volume 1, No. 2, November, 1923, which is before us, deal more particularly with diabetes, Insulin and other pancreatic preparations. The hormone treatment of diabetes is just now in everybody's mind and much information of great interest can be found in this issue of *The Endocrine Survey*. Emanating as it does from Glendale, California, the little journal will be sure to be of value and of interest. We wish it success in its career.

HARROWER: "PRACTICAL ORGANOTHERAPY"

Practical Organotherapy. The Internal Secretions in General Practice. By Henry R. Harrower, M. D. Third Edition. Glendale, Calif.: The Harrower Laboratory. 1922.

The third edition of Harrower's "Practical Organotherapy" contains almost twice as many pages of text as did its predecessor, a sign of the indefatigable efforts that the author de-

votes to the particular phase of medical endeavor in which he is specially interested. The text is collated from material obtained from the results of experiences ond observations in the laboratory, in large clinics under the supervision of trained students, and in general and special practice by practitioners of medicine and its specialties. Naturally, the information contained in current literature also has contributed its share and, finally, the author maintains a large correspondence with numerous physicians who supply much of his material.

It would be difficult to find a more complete set of sources from which to draw conclusions and arguments out of which to cull serviceable hints and in which to find useful instruction.

It might be said that this little book appears in the nature of a "house organ" and merely designed to popularize and to sell Harrower's polyglandular products. That may be true, providing the word "merely" be omitted. Supposing the author does call attention to his own products. What of it, as long as he is quite certain that he offers the best that can be made and providing that his claims in that direction are confirmed by others—as is actually the case. There is nothing wrong in calling attention to your products if they are made honestly and suitably and with due regard to all requirements. It can not be denied that "Practical Organotherapy" is a very useful reference book for rapid orientation. When it comes to detailed study of organotherapeutic problems, it will have to be supplemented by some of the larger monographs. Its outstanding character is, the confidence and enthusiasm displayed in the possibilities of endocrine medication and also the shrewd recognition of the fact that the glands with internal secretion cooperate in great part and that a logical outcome of this fact is the therapeutic employment of combinations of glandular substances.

"THE DOCTOR'S THERE"

Here is an attractive little pamphlet published as a note of appreciation by G. W. Carnrick Company, New York. The pamphlet received its title from the first communication, a poem, by Dr. W. A. MacKenzie. There is a lay estimate of the doctor reproduced from the *Boston Transcript*. There are poems and small articles, all dealing with the doctor and culled from literature. The last is a portion of Ian Maclaren's wonderful tribute to "A Doctor of the Old School".

We have to thank the G. W. Carnrick Company for this beautiful tribute which is appreciated.

MILLER: "RUBBER"

Rubber and Gutta Percha Injections. Subcutaneous Injections of Rubber and Gutta Percha for Raising the Depressed Nasal Bridge and Altering External Contours. By Charles Conrad Miller, M. D. Chicago: Oak Printing & Publishing Co. 1923. Price $1.75.

The unsatisfactory and sometimes serious results of paraffin injections for the purpose of correcting cosmetic imperfections are well in our minds. We believe that the method has almost been given up. Doctor Miller has found that specially prepared gutta percha can be injected subcutaneously without harm and with splendid cosmetic results. This little book is interesting.

[*Concluded from page 883.*]

and difficult position under its provisions. I consider that the action of Congress in this respect is reprehensible. All this, however, does not alter the fact that the act is in force and that the only thing we can do honestly is, to abide by it.

The matter becomes the more serious and fraught with deplorable consequences because of the fact that the available "liquor" is so atrociously bad and so fatally certain to work harm. It has been said that there is not a single bottle of actually good whisky to be had in this country. That may be overstating the facts; but, certainly, we read enough concerning the evil consequences and effects of hootch to cause us to refrain from its use and to avoid writing prescriptions for the sick, even where under normal circumstances we would prescribe it because we consider it the best remedy for the emergency.

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